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Advancing Free Trade
for Asia-Pacific **Prosperity**

APEC Financial Inclusion Capacity Building Package - Synthesis Report

APEC Policy Support Unit

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EXECUTIVE SUMMARY

- Financial inclusion is a key priority for APEC economies as well as international organisations. In 2018, the APEC Finance Ministers' Process (FMP) approved the development of a financial inclusion capacity building package to identify challenges, gaps, and opportunities for financial inclusion cooperation. FMP also decided to focus the package on the use of financial innovation, particularly fintech, in promoting financial inclusion and consumer protection.
- Among the key challenges and priorities identified by economies in using financial innovation to promote financial inclusion are in the areas of:
 - Regulatory and institutional reform and balance
 - Ensuring access to financial services
 - Improving financial literacy and skills
 - Consumer protection and law enforcement
- Economies have tested various approaches to address their challenges and achieve their policy priorities. These approaches include:
 - Policy strategies at the economy and sectoral levels
 - Regulatory sandboxes and incubators
 - Promoting the use of digital payments
 - Promoting financial literacy
 - Enacting competition and consumer protection policies
- Some key areas identified by economies that may benefit from capacity building are:
 - Finding the right policy approach and regulatory balance, including ways to address trade-offs and mitigate risks in a fast-changing digital economy
 - Upgrading skills for financial regulators specifically:
 - Regulation in a digital financial ecosystem
 - Software programming and code analysis
 - Big data analytics and management
 - Regtech and supotech
 - Use and application of distributed ledger technologies
 - Rigorous policy analysis
 - Bridging the digital divide and ensuring a holistic approach to financial inclusion
- Regional cooperation has a strong role to play in financial inclusion through:
 - Sharing of experiences and best practices by economies
 - Leveraging on the work of international organisations
 - Working with other APEC fora for knowledge creation, data and policy harmonisation, and finding joint solutions to regional challenges

TABLE OF CONTENTS

1. Introduction.....	1
2. Financial Inclusion and Fintech	1
Financial Inclusion in APEC economies	7
Fintech and Financial Inclusion	10
3. Challenges and Priorities	19
Regulatory and Institutional Reform	20
Ensuring Access to Financial Services	20
Improving Financial Literacy	21
Consumer Protection and Law Enforcement	21
4. Policy Approaches and Responses	22
Macro and Sectoral Policy Approaches	22
Regulatory Sandboxes and Incubators	23
Digital Payments	23
Promoting Financial Literacy	25
Competition and Consumer Protection Policies	25
5. Capacity Building Needs	26
Appropriate Policies and Regulatory Balance	26
Upgrading Skills	27
Bridging the Digital Divide	28
6. Role for Regional Cooperation.....	29
Sharing Experiences and Best Practices	29
Role for APEC	30
7. Conclusion	32
References	33
Appendix A: Case Studies	38
Canada.....	38
Chile.....	42
Hong Kong, China	54
Japan	58
Papua New Guinea.....	61
Russia.....	63
Chinese Taipei	67
Asian Development Bank	69
Organisation for Economic Co-operation and Development.....	74

Appendix B: Individual Economy Reports	78
Australia.....	78
Canada.....	82
Chile.....	85
Hong Kong, China	89
Indonesia.....	93
Japan	96
Malaysia.....	96
Mexico	99
Papua New Guinea.....	101
The Philippines	104
Russia.....	108
Singapore	111
Chinese Taipei	114
Thailand	117

1. INTRODUCTION

The development of a capacity building package to advance financial inclusion in the APEC region was proposed in March 2018 and received support from APEC Finance and Central Bank Deputies. A Core Team comprised of Papua New Guinea (as Lead); Chile; Russia; and the United States was formed to draft the Terms of Reference and manage the delivery of the capacity building package. The Policy Support Unit (PSU) of the APEC Secretariat was tasked to provide technical support to the Core Team.

In October 2018, it was agreed by Finance Ministers that the capacity building package will focus on financial innovation, financial education, and consumer protection. In March 2019, the Terms of Reference for the package was agreed by Finance and Central Bank Deputies. A call for contributions in the form of voluntary case studies and an Individual Economy Report (IER) questionnaire was made in May 2019. The Core Team received seven case study contributions, two contributions from international organisations (Asian Development Bank and Organisation for Economic Co-operation and Development), and 14 IER responses.

This synthesis report collates and distils inputs from APEC member economies on their challenges, responses, and capacity building needs with respect to financial inclusion and consumer protection. The next section of this report draws on secondary literature to provide a background on financial inclusion in APEC economies as well as the role of financial innovation, particularly fintech, on financial inclusion. This is followed by APEC economies' views on their challenges and policy priorities in promoting financial inclusion and consumer protection, followed by a chapter on the policy approaches they have used to address these challenges and achieve their priorities. It concludes with gathered insights on economies' capacity building needs and opportunities followed by the ways in which regional cooperation and international organisations, particularly APEC, can contribute to financial inclusion capacity building in the region.

2. FINANCIAL INCLUSION AND FINTECH

The main focus of financial inclusion is the delivery of financial services to the underserved and vulnerable segments of society with the end-goal of enabling access to economic opportunities, improving living standards, and reducing poverty.

Financial inclusion, as defined by Beck (2016) means access by enterprises and households to formal financial services that are both appropriately designed to meet their needs and also reasonably priced. This access to financial services include physical access, taking into account proximity to a financial service provider, and socio-economic access, relating to the absence of prohibitive fees and documentation requirements.

The Asian Development Bank Institute (2017) broadly defines financial inclusion as the degree of access of households and firms, especially poorer households and small and medium-sized enterprises (SMEs) to reasonably priced financial services.

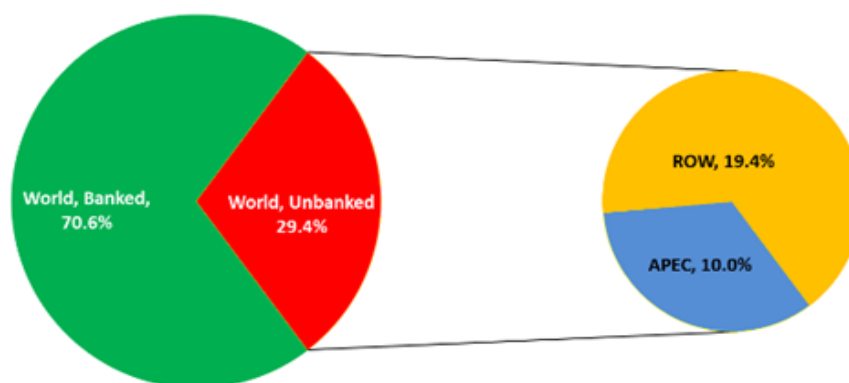
The Consultative Group to Assist the Poor (CGAP)¹ is of the view that financial inclusion means being part of the financial system by having an account at a formal financial institution to allow access to a bank, savings account, debit card, insurance, or line of credit, to help people, especially those from poor households, to:

- Make day-to-day transactions, including sending and receiving money;
- Safeguard savings, which can help households manage cash flow spikes, smooth consumption and build working capital;
- Finance small businesses or microenterprises, helping owners invest in assets and grow their businesses;
- Plan and pay for recurring expenses, such as school fees;
- Mitigate shocks and manage expenses related to unexpected events such as medical emergencies, a death in the family, theft, or natural disasters; and
- Improve their overall welfare.

The World Bank (WB)² defines financial inclusion as “access by individuals and businesses to useful and affordable financial products and services that meet their needs—transactions, payments, savings, credit and insurance—delivered in a responsible and sustainable way.”

Data from the WB’s World Development Indicators³ database shows that, in 2017, around 1.6 billion adults worldwide are unbanked or do not have an account at a formal financial institution, translating into 29% of the world’s adult population. About 556 million adults aged 15 and above in APEC are unbanked and do not use formal financial services. This is around 10 percent of the world adult population and 26 percent of the total adult population in the APEC region (Figure 2.1).

Figure 2.1. Share of Population without a Financial Institution Account, 2017



Source: Data from World Development Indicators (WDI), WB.

Financial inclusion is an issue of growing importance to policymakers due to its potential to contribute to key development objectives such as economic growth and improved welfare. Financial inclusion is also a key enabler for participating in the digital economy, where transactions are increasingly made through digital platforms and not via cash. At the same time, the 2008 global financial crisis has highlighted the need for responsible delivery of financial

¹ <https://www.cgap.org/about/faq>

² <https://www.worldbank.org/en/topic/financialinclusion/overview>

³ <http://datatopics.worldbank.org/world-development-indicators/>

services. In late 2008 and 2009, these interlinked policies of financial inclusion and responsible finance were prioritized by the G20.⁴

At their Pittsburgh Summit in September 2009, G20 Leaders issued their first pronouncement on financial inclusion and committed to improving financial services for the poor. In June 2010, they endorsed nine high-level Principles for Innovative Financial Inclusion at the Toronto G20 Summit. The G20 Leaders confirmed their commitment to financial inclusion by approving a Financial Inclusion Action Plan and creating a new body in late 2010 to implement it: the G20 Global Partnership for Financial Inclusion (GPII). The GPII functions as an inclusive platform for G20 economies, non-G20 economies, and relevant stakeholders for peer learning, knowledge sharing, policy advocacy and coordination.⁵ In 2017, G20 Leaders endorsed the Financial Inclusion Action Plan (FIAP),⁶ which reaffirms earlier commitments while identifying four key drivers for achieving financial inclusion; namely, (1) recognition of the 2030 Agenda for Sustainable Development as the overarching framework for sustainable development globally; (2) the rapid development and penetration of digital innovations; (3) increased attention to the importance of responsible access and usage of financial services to the poor, strengthening the focus on underserved and vulnerable groups; and (4) the mainstreaming of financial inclusion alongside other financial sector development goals of stability, integrity and consumer protection.

Meaningful initiatives on financial inclusion have been launched by APEC, primarily through the Finance Ministers' Process (FMP). The FMP's efforts to promote financial inclusion largely aimed at increasing awareness and expanding access of vulnerable segments of society. As such, initiatives have centred on increasing women's access to financial services, improving the level of financial knowledge and awareness among poor households, and enhancing the financial access of SMEs, among others. In 2015, the FMP launched the Cebu Action Plan (CAP), with financial integration as one of its four main pillars,⁷ and sharing financial inclusion and strategies as one of the concrete actions under this pillar. Financial inclusion was also one of the key pillars of the APEC Action Agenda on Economic, Financial and Social Inclusion,⁸ which APEC Leaders endorsed in 2017. The Action Agenda defines financial inclusion as people and firms having "appropriate access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way."

Moreover, the FMP has taken into account rapid technological changes by including the development of digital ecosystems as one of its priorities in 2016-2017. In 2018, the FMP started developing a capacity building package on advancing financial inclusion that focuses on financial innovation and consumer protection. This initiative aims to share experiences and good practices among APEC economies, particularly on the mechanisms employed by

⁴ Nine APEC member economies are also members of the G20, namely: Australia; Canada; China; Indonesia; Japan; Korea; Mexico; Russia; and the United States. The other G20 members are, namely: Argentina, Brazil, France, Germany, India, Italy, Saudi Arabia, South Africa, Turkey, the United Kingdom, and the European Union.

⁵ The Consultative Group to Assist the Poor (CGAP) is one of seven key Implementing Partners for the GPII, along with the Alliance for Financial Inclusion (AFI), the Better Than Cash Alliance, International Finance Corporation (IFC), the International Fund for Agricultural Development (IFAD), the Organisation for Economic Co-operation and Development (OECD), and the World Bank

⁶<https://www.gpii.org/sites/default/files/documents/2017%20G20%20Financial%20Inclusion%20Action%20Plan%20final.pdf>

⁷ The other pillars are, namely: Fiscal reforms and Transparency; Financial Resiliency; and Infrastructure Development and Financing.

⁸ https://www.apec.org/Meeting-Papers/Leaders-Declarations/2017/2017_aelm/Annex-A

governments to foster financial innovation while ensuring consumer protection, including working with the private sector. In line with this, the FMP has also conducted activities to improve consumer’s digital financial literacy and awareness.

International organisations have increasingly addressed the challenge of achieving financial inclusion by launching strategies and programmes largely aimed at widening the access of excluded sectors to financial knowledge, products, and services. Towards this end, these organisations have implemented specific initiatives on financial education, financial innovation, consumer protection, and microfinance, among others.

A quick scan covering 12 international organisations that promote financial inclusion shows similarities and variations (Table 2.1). There are two major similarities among the different financial inclusion programmes of international organisations. First is the objective, which is geared towards uplifting the lives of the poor, the unbanked, women, and vulnerable groups of society through a more inclusive financial system that facilitates access to quality financial products and services. The second major similarity points to the four areas of financial inclusion that international organisations have been working on; namely, financial education, consumer protection, women’s participation in the financial system, and financial innovation.

Other similarities point to the research- and policy-oriented modalities of financial inclusion programmes, specifically on building business models that deliver financial services to the unserved and underserved. These programmes also develop initiatives and policies that promote the creation of responsible and inclusive financial sector that is aligned with the development goals of a particular economy or regional grouping. Moreover, the financial inclusion programmes of international organisations are often collaborative in nature, relying on partnerships among governments, the private sector, and other stakeholders.

On the other hand, a major difference points to the set of strategies adopted by international organisations to promote financial inclusion. The approaches range from economy-led to peer-to-peer and industry engagement, inter-connected priorities, as well as capacity building initiatives and targeted interventions. Other differences have to do largely with the degree of focus accorded to different initiatives under the financial inclusion programme.

Table 2.1. Financial Inclusion Programmes of International Organisations

International Organisation	Financial Inclusion Programme		Areas covered			
	Objective	Strategy	Financial Education	Consumer Protection	Women’s Participation	Financial Innovation
Alliance for Financial Inclusion (AFI)	Empower policymakers to increase access and usage of quality financial services to the poorest populations through policy formation and implementation as well as global advocacy.	Global knowledge exchange network, with the Global Policy Forum as the key event. The forum is used as a platform for senior financial regulators to exchange ideas and impact solutions based on economy-led approaches and peer-to-peer engagement.		√	√	√

International Organisation	Financial Inclusion Programme		Areas covered			
	Objective	Strategy	Financial Education	Consumer Protection	Women's Participation	Financial Innovation
Asian Development Bank (ADB)	Expand access of poorer households and SMEs to financial services.	Provision of loans, credit lines, investments, grants, guarantees and technical assistance in such areas as microfinance, agricultural finance, mobile banking, financial literacy and consumer protection, rural banks, among others.	√	√		√
Asia-Pacific Economic Cooperation (APEC)	Universal financial access and usage across the APEC region.	Policy dialogue led by Finance Ministers and involving ABAC with other APEC fora; capacity building; and collaboration with governments.	√	√		√
Center for Financial Inclusion (CFI)	Enable 3 billion people who are left out of, or poorly served by, the financial sector to improve their lives.	Research and Insights; Client Advocacy; Fellowships and Executive Education; and Industry Engagement	√	√		√
G20, through the Global Partnership for Financial Inclusion (GPMI)	Advance financial inclusion benefiting all economies and all people, including in particular underserved groups (such as the poor, women, youth, and people living in remote rural areas) and vulnerable groups (which include elderly people, migrants and forcibly displaced persons).	Implementation of the G20 FIAP is carried forward by its four Subgroups: (1) SME Finance, (2) Regulation and Standard-Setting Bodies, (3) Financial Consumer Protection and Financial Literacy, and (4) Markets and Payment Systems.	√	√	√	√
Institute for International Finance (IIF)	Help expand financial services to the 2 billion unbanked around the world through	Develop research; collaborate with partner institutions and global standard-setting bodies to advance policies that			√	√

International Organisation	Financial Inclusion Programme		Areas covered			
	Objective	Strategy	Financial Education	Consumer Protection	Women's Participation	Financial Innovation
	research and policy support.	expand the reach of financial services.				
International Monetary Fund (IMF)		IMF releases the Financial Access Survey (FAS) annually, a database tracking access to and use of financial products. IMF also conducts training courses to equip government officials to deliver financial inclusion and stability.				
Organisation for Economic Co-operation and Development (OECD)	Provide research-based and data-backed policy guidance on financial inclusion initiatives, including financial literacy, consumer protection, and digitalisation.	Generate research studies, frameworks and policy guidance as outcomes from the conduct of surveys, public consultations conferences, and meetings with partners and stakeholders.	√	√	√	√
United Nations Capital Development Fund (UNCDF)	Provide capital and technical assistance resulting in inclusive finance programmes that enable more households and small businesses to access financial services and new financial products, thus opening up opportunities and mitigating their vulnerability.	UNCDF promotes a three-pillar approach: (1) Consumer protection regulation and supervision by financial authorities; (2) Industry action guided by principles, standards, codes of conduct and guidelines; and (3) Enhanced financial capability of consumers. UNCDF also supports digital finance innovations to reach unbanked, poor and remote populations who have been excluded from traditional financial networks.		√		√
World Bank (WB)	Advance financial access and inclusion by being able to have access	Universal Financial Access (UFA) by 2020: In 2013, the World Bank Group	√	√	√	√

International Organisation	Financial Inclusion Programme		Areas covered			
	Objective	Strategy	Financial Education	Consumer Protection	Women's Participation	Financial Innovation
	to a transaction account.	committed to extend access to financial services to 1 billion adults through the UFA 2020 initiative, which envisions that adults worldwide will be able to have access to a transaction account to store money, send or receive payments.				
World Economic Forum (WEF)	Foster full access to, and use of, affordable financial services for the underserved through digital means.	Conduct of regional activities focusing on: (1) Digital inclusion: Increase merchant acceptance of digital payments, with a focus on SME retailers; (2) Collaboration: Advance cross-industry and cross-sector partnerships to explore bundling services, encourage the use of new technology and increase incentives for digital adoption; and (3) Improved financial inclusion metrics: Develop new ways to measure access, use and impact of financial services.				√

Source: Official websites of international organisations: <https://www.afi-global.org/>; <https://www.adb.org/sectors/finance/issues/financial-inclusion-microfinance>; <https://www.apec.org/Groups/Other-Groups/Finance-Ministers-Process>; <https://www.centerforfinancialinclusion.org/>; <https://www.cgap.org/>; <https://www.gpfi.org/publications/g20-financial-inclusion-action-plan-fiap-2017>; <https://www.iif.com/Innovation/Financial-Inclusion>; <https://www.imf.org/en/News/Articles/2018/09/28/pr18366-imf-releases-the-2018-financial-access-survey>; <http://www.oecd.org/finance/financial-education/>; <http://www.uncdf.org/financial-inclusion>; <https://www.worldbank.org/en/topic/financialinclusion>; <https://www.weforum.org/projects/promoting-global-financial-inclusion>.

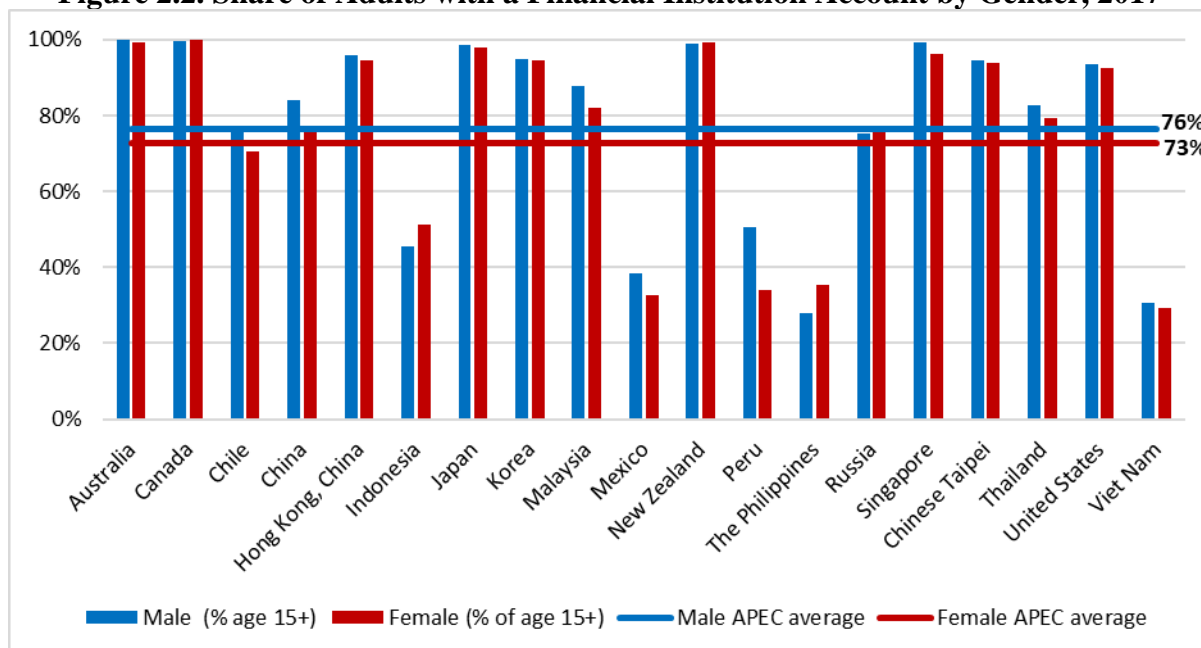
FINANCIAL INCLUSION IN APEC ECONOMIES

There is a wide variation across APEC economies in terms of financial inclusion, which reflects of the diversity in economic development around the region. On average, 74% of adults (76% for men and 73% for women) in the APEC region who are 15 years and older have an account

at a formal financial institution (Figure 2.2). Seven APEC economies have a “banked” share of 95% or higher: Australia; Canada; Hong Kong, China; Japan; Korea; New Zealand; and Singapore. On the other hand, five APEC economies included in the survey have banked rates below 50%: Indonesia; Mexico; Peru; the Philippines; and Viet Nam.

While access to accounts is at or near parity in most APEC economies, women are less likely to have an account than men in five APEC economies: Chile; China; Malaysia; Mexico; and Peru. On the other hand, women are more likely than men to have financial institution accounts in Indonesia and the Philippines.

Figure 2.2. Share of Adults with a Financial Institution Account by Gender, 2017



Notes: No data for Brunei Darussalam and Papua New Guinea. Figures show the percentage of respondents (aged 15+) who report having an account by themselves or together with someone else at a bank or another type of financial institution.

Source: World Bank Global Findex Database.

Information gathered shows that 20 out of the 21 APEC member economies have launched official economy-wide financial literacy programmes (FLP) that are geared towards equipping consumers with an understanding of available financial instruments and services to help them make informed savings and investment decisions (Table 2.2).

Table 2.2. Financial Literacy Programmes in APEC

APEC member economy	Financial Literacy Programme/Note	
Australia	√	Financial Literacy Strategy
Brunei Darussalam	√	Strategy for Financial Literacy
Canada	√	Strategy for Financial Literacy - Count me In, Canada
Chile	√	Strategy for Financial Education
China	√	Enhancement of inclusive finance education is one of the 8 pillars under the financial inclusion strategy
Hong Kong, China	√	Consumer Education Programme
Indonesia	√	Financial Education is one of the 6 pillars of the financial inclusion strategy
Japan	√	Consumer Education on Finance

Korea	√	Investor Education Programmes
Malaysia	√	Financial Literacy Education Programme
Mexico	√	Financial Education is one of the 6 pillars of the financial inclusion strategy
New Zealand	√	Strategy for Financial Literacy
Papua New Guinea	√	Financial Literacy and Financial Education is one of the 9 priority areas under the financial inclusion strategy
Peru	√	Plan for Financial Education
The Philippines	√	Financial Education and Consumer Protection
Russia	√	Financial Literacy Strategy (2017-2023)
Singapore	√	MoneySENSE Financial Education Programme
Chinese Taipei	√	Financial Literacy Programme
Thailand	√	Financial Education Programme
United States	√	Strategy for Financial Literacy
Viet Nam		In January 2018, the State Bank of Viet Nam said that it is developing a financial inclusion strategy which it plans to roll out in 2020

Source: Various economy sources, collated by APEC Policy Support Unit.

Moreover, 15 APEC economies have established domestic financial inclusion strategies with specific objectives and action plans (Table 2.3). It should be noted that APEC members that are also G20 members could have implicitly adopted the G20 financial inclusion action plan (FIAP) instead of establishing their own, so that the number of APEC economies with a financial inclusion strategy could include up to 18 members. In addition, some APEC economies are taking important steps towards developing and improving their own financial inclusion strategies such as conducting an economy-wide survey to determine the level of financial inclusion and publicly announcing the approaches that they are considering in formulating a financial inclusion plan.

Table 2.3. Financial Inclusion Programmes/Strategies in APEC

APEC member-economy	Financial Inclusion Programmes or Strategies/Notes	
Australia	√	Financial Inclusion Action Plan
Brunei Darussalam		In February 2018, the Autoriti Monetari Brunei Darussalam (AMBD) announced the conduct of a telephone survey to measure the level of financial inclusion in the economy
Canada		G20 member-economy committed to implement the G20 FIAP
Chile	√	Financial Inclusion Strategy
China	√	Plan for Promoting the Development of Financial Inclusion (2016-2020)
Hong Kong, China	√	Financial Inclusion promoted under the Treat Customers Fairly Charter
Indonesia	√	Strategy for Financial Inclusion
Japan		G20 member-economy committed to implement the G20 FIAP
Korea	√	Inclusive Finance is part of the Financial Policy Agenda
Malaysia	√	Financial Sector Blueprint (2011-2020)
Mexico	√	Financial Inclusion Strategy
New Zealand		
Papua New Guinea	√	Financial Inclusion Strategy (2016-2020)
Peru	√	Financial Inclusion Strategy
The Philippines	√	Strategy for Financial Inclusion
Russia	√	Financial Inclusion Strategy (2018-2020)
Singapore	√	Smart Financial Centre, with Financial Technology (FinTech)

Chinese Taipei	√	Promoting Financial Inclusion
Thailand	√	Financial Inclusion is part of Inclusive Development pillar of the Strategic Plan (2017-2019)
United States		G20 member-economy committed to implement the G20 FIAP
Viet Nam		In January 2018, the State Bank of Viet Nam said that it is developing a financial inclusion strategy which it plans to roll out in 2020

Source: Various economy sources, collated by APEC Policy Support Unit.

FINTECH AND FINANCIAL INCLUSION

Fintech is very broadly defined as the use of technology to support or enable the provision of and access to financial services. While fintech is often associated with innovative start-ups and crowd-funding platforms, it also includes the use of technology by existing and traditional financial services firms, such as internet and mobile banking.

Fintech presents an array of opportunities to close gaps in financial inclusion. Specifically, fintech has the ability to reduce costs and transactional frictions, increase efficiency and competition, overcome information asymmetry, and support broader economic growth by bringing previously economically excluded people into the formal financial sector (IMF, 2018). This is well-illustrated with examples from Africa, where the proliferation of mobile money has led to a dramatic expansion of financial inclusion (Box 2.1). Indeed, the World Bank has attributed the dramatic growth in formal financial account holders in sub-Saharan Africa to the growth of mobile money (World Bank, 2014).

Box 2.1. Mobile Money and Financial Inclusion in Africa

Mobile money is a broad term which refers to payments or transactions made through the use of mobile devices (such as phones or tablets), though these payments need not occur through the formal financial system. There are 19 markets in sub-Saharan Africa which feature a larger number of mobile money accounts than traditional bank accounts (Burns, 2018). Perhaps the most well-known success story in the region is that of Safaricom's M-Pesa in Kenya. Burns (2018) notes that Safaricom utilised the near-total mobile phone penetration of Kenya to roll out a mobile money payments platform which could be used to pay bills, send remittances, and purchase call credits. Customers soon realised that M-Pesa payments incurred lower transaction costs on virtually all types of payments, and so it became a universally accepted method of transacting among individuals and businesses. As Safaricom partnered with small retail banks and as the central bank of Kenya permitted mobile money a more central role in the financial system, it dramatically increased financial inclusion.

The successful spread of the Kenyan mobile money model across other parts of sub-Saharan Africa is attributed to enabling environments. Following Kenya's lead, Tanzania and Uganda also saw the spread of mobile money systems leading to greater financial inclusion, despite notable differences between the economies in terms of population (e.g., degree of urbanisation) and telecommunications market structures. Similar developments occurred even in less stable economies, such as Zimbabwe and the Democratic Republic of Congo. Burns (2018) argues that the one thing all these economies had in common was a relatively flexible approach to regulation which was pioneered by Kenya. This encompasses low or no barriers to entry for financial services, scaling back regulations for innovative business models (i.e., taking a "regulation-lite" approach), and being technology neutral by allowing a market-led approach. Kenya's approach also facilitated competition through new mobile

money market entrants. Of course, some of these economies had more stable or developed economic and political systems than others, which provided an additional advantage. But what these examples illustrate is the importance of appropriate physical (i.e., telecommunications infrastructure) and intangible (i.e. regulation) infrastructure. Note that this does not mean the same infrastructure, but infrastructure which is supportive of a technology best suited to the needs of the local economy.

In the APEC region, China is a pioneer in the development of fintech, driven primarily by the technology conglomerate Alibaba. Chen (2016) argues that the overwhelming success of China's Alipay, Ant Financial and Yu'E Bao is driven by the scenarisation of finance, whereby success comes not from technological advancement itself, but from a much better integration of technology, finance, and lifestyle needs. China's fintech applications aid financial inclusion by offering high-frequency, low-cost services to customers otherwise not available through China's large traditional banks. Additionally, the existence of these platforms on mobile devices makes data collection and monitoring less costly, while big data techniques can be used to better price risk and assess compliance (Chen, 2016).

Aiding the rise of these platforms in China was the fact they contributed heavily to domestic consumption and growth, with lower transaction fees supporting consumer spending. Innovations in how consumers could earn rewards on money stored in the applications further supported their take-up and growth. Chen (2016) notes, however, that the success of the scenarisation of finance is dependent on the nature of economies' financial systems, macroeconomic environments as well as consumers' habits. Further, the author postulates that the dominance of one method of payment or one financial structure over another within an economy does not mean that that method is necessarily optimal for that economy, but rather it was simply better integrated with real-life needs at the time.

Conversely, India has a policy-led regulatory and financial environment that contributed to financial inclusion. For instance, Indian micro-insurance is far deeper and more developed than much of the rest of the world following official directives dating back to 2002 to serve the lower-end of the market (Rhyne, 2015). The policy push to expand inclusion in India has seen local banks encouraged to use technology to reach customers, including using their Aadhaar (digital identity number) to facilitate faster authenticity checks (Saxena & Anand, 2017; Stacey, 2018). Further, to encourage individuals into the formal sector, direct incentives such as insurance or debit cards were offered for the creation of bank accounts. While some of these incentives are conditional on the bank accounts being used or having a minimum balance, many of the accounts have a zero-balance or are infrequently used, and many account holders are not aware of the full array of benefits available to them through digital services (Rao & Anand, 2015; Saxena & Anand, 2017).

On the business side of financial inclusion, the United Kingdom (UK) has leveraged technology in order to support SMEs as part of a broader fintech agenda. Similar to many other economies, SMEs in the UK represent a large share of the economy but face high barriers to access for financial services, contributing to over half the economy but only accounting for one sixth of banking credit (Lu, 2018)). Despite several fintech and peer-to-peer (P2P) applications existing by the mid-2000s, much of the development in the sector occurred in the aftermath of the global financial crisis (GFC) in an attempt to promote economic recovery. The UK has a number of formal initiatives aimed at financial inclusion and fintech development, and which heavily involve the private sector. Examples include the innovative Individual Savings

Account that offers tax-free returns for savers who invest their money in online P2P markets, the Business Finance Partnership which directs private investment funds into SMEs through fintech platforms, and the Start Up Loans Scheme which is aimed at young business entrepreneurs (Lu, 2018). The UK government also contributes funds to these platforms to further their reach. Risks are still borne by investors, as P2P investments are not covered by the UK's Financial Services Compensation Scheme.

In relatively developed financial markets such as the UK's, the implementation of a regulatory sandbox can be a good way to minimise financial system and consumer risk while supporting innovation. Regulatory sandboxes facilitate the testing of financial products, services, business models and delivery mechanisms in real-world markets with real customers. Businesses in the sandboxes are subject to lighter regulations during the testing phases, but retain a degree of regulatory oversight and support.⁹ These features enable businesses to reduce costs and time-to-market for their products and services, quickly identify appropriate consumer safeguards and compliance issues, and provide better access to finance (Lu, 2018). Several APEC economies have set up or are in the processes of establishing regulatory sandboxes for fintech, including Australia; Indonesia; Malaysia; Singapore; and the United States. In less developed markets, regulatory sandboxes also offer the chance to gain greater visibility over aspects of the developing financial system, minimise risks in a more transparent environment, and provide innovators with a clear understanding of the institutional frameworks in which they seek to operate.

Digital technologies can support broader financial system development by allowing SMEs to raise funds directly from investors (often termed "crowdfunding") rather than relying on administratively burdensome and expensive asset-backed financing (Blakstad & Allen, 2018). Crowdfunding is a relatively new form of financing, which allows individuals and businesses to raise money directly from private investors without the need for financial intermediaries, usually through an app or online platform. Systematic data on the use and success of crowdfunding is scarce, primarily because it sits outside of most jurisdictions' prudential and reporting bounds.

A key feature of fintech and digitally inclusive technology is that they are largely driven by the private sector. This is illustrated by the success of fintech developments in developing economies, which tend to have fewer regulatory constraints, legacy systems, and barriers for private sector start-ups, largely due to institutional and capacity constraints (Kawai & Prasad, 2011). Furthermore, private-led development of fintech is more likely to yield fit-for-purpose and inclusive products that addresses specific market needs.

The broader digital revolution has empowered customers to make demands on their financial institutions and services that they previously could not due to information asymmetry. Similarly, traditional institutions such as banks, with the help of mobile technology, are able to access digital data and information from customers without necessarily needing to conduct in-person assessments. Indeed, formal financial institutions can utilise this technology to better demonstrate to the unbanked the value in having bank accounts, in contrast to informal financial services which are often perceived as more convenient and with lower barriers to entry, despite their higher cost (Godinho, et al., 2015).

⁹ The exact degree of regulatory oversight varies from jurisdiction to jurisdiction, and sometimes depends on the nature of the business entering the sandbox.

Dramatic increases in the scale of low-cost and accurate data being collected through fintech means that it can be harnessed to deliver tailored services to customers as well as increase formal banking competition. For example, to accelerate the realisation of these benefits, Australia is slated to commence “open banking,” which gives consumers the ability to choose who has access to what portions of their banking-related data and lowers their direct costs of accessing finance. Indeed, it is expected that Australia’s data governance strategy, alongside developments in fintech, will lead incumbent financial institutions to better collaborate and partner with start-ups to deliver wider access to financial services (Pollari, 2016).

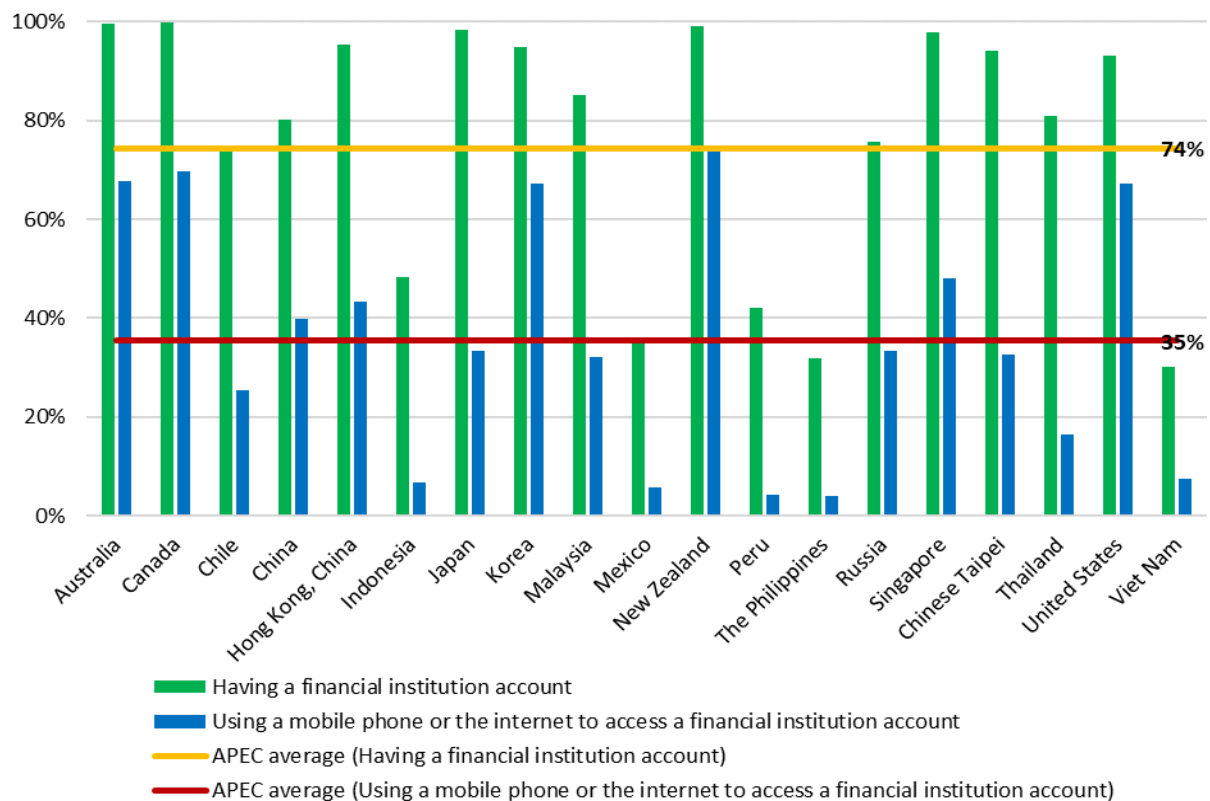
Fintech can support the financial viability of low-value services that are currently not offered by institutions to the underserved and unbanked (Johnston & Morduch, 2008). Many institutions traditionally set prices for these services beyond the reach of many poorer households, but digital technology, fintech partnerships and mobile reach can dramatically reduce the costs of providing these services, and hence increase access (IMF, 2018; Zalan & Toufaily, 2017).

Challenges and limitations of fintech

While fintech presents many opportunities for financial inclusion, there are also significant challenges and limitations that are present in utilising technology towards this end. Many of these stem from uncertainties about underlying technologies; regulatory, business and consumer inexperience; and untested promises by fintech developers and firms regarding their benefits and robustness. For some economies, the lack of quality telecommunications infrastructure, internet, and mobile services can be a constraint to fintech development. Physical infrastructure, along with intangible financial market infrastructure, appropriate institutional frameworks, and financial education, form the key pillars of a successful fintech strategy.

The successful use of fintech for financial inclusion requires a population that has access to digital infrastructure and is digitally literate. Indeed, across the region there is low fintech use even among those who already have financial sector accounts: while 74% of adults in APEC have a financial sector account, only 35% used a mobile phone or internet to access it (Figure 2.3).

Figure 2.3. Share of Adults Who Have an Account; Used a Digital Device to Access It, 2017



Notes: No data for Brunei Darussalam and Papua New Guinea. Figures show the percentage of respondents (aged 15+) who report having an account by themselves or together with someone else at a bank or another type of financial institution.

Source: World Bank Global Findex Database.

Fintech will be of limited value to inclusive growth if it is not underpinned by a knowledge of how to use it, which includes skilling the population with the appropriate amount of both financial and digital literacy. This will likely be a more acute challenge for economies with a higher proportion of elderly and disadvantaged persons as well as those with significant digital divides.

Finding the right balance between overregulation that stifles fintech development and underregulation that exposes financial systems and consumers to risk is paramount. Heavy-handed regulatory environments in economies like Ghana, Nigeria, and South Africa stifled the proliferation of fintech platforms by preventing partnerships with banks and charging steep transaction taxes (Burns, 2018). This is also highlighted by India’s experience with mobile money: India’s traditionally prescriptive regulatory environment, which had previously served the economy well in expanding access to financial products, failed in its attempts to establish mobile money networks. This was primarily because the regulators heavily restricted the types of institutions which could offer mobile money, as well as the business model they were required to adopt (Lal & Sachdev, 2015). On the other hand, economies in the top 10 of the Economist Intelligence Unit’s Financial Inclusion Index generally have highly capable and driven regulators who have made deliberate efforts to expand the reach of financial services (Rhyne, 2015). For example, despite only recently developing the systems to facilitate electronic payments, Peru scores highly for financial inclusion on the basis of regulatory and supervisory measures towards inclusion (Rhyne, 2015).

Ensuring financial products are fit-for-purpose as well as inclusive can be a challenge for some, as social and cultural factors can interact with attempts at financial inclusion. Challenges can emerge as fintech developments aimed at financial inclusion look to challenge ingrained behavioural limitations. For instance, in South Africa, a malaise towards new and innovative financial institutions and products is rooted in cognitive biases held by the local population regarding the traditionally high cost of all financial services (Kostov, et al., 2015).

Financial inclusion for indigenous groups in Australia represents another challenging example, as cultural beliefs heavily influence the use and storage of money. In these communities, cultural norms relating to family and kinship have been identified as a challenge to achieving financial inclusion, despite efforts to promote digital services in rural areas (Godinho, et al., 2015). Godinho et al. (2015) notes that simply having a bank account does not guarantee inclusion, as indigenous households can and do cycle out of the banking system over time. This is primarily driven by community attitudes towards money, which depict it as a communal rather than an individual resource, so community members are pressured to share funds and even passwords and internet banking details, which can lead to fees for excessive account activity and cash withdrawals (Godinho, et al., 2015). These practices stand counter to the principles of financial inclusion, which aim to bring the undeserved and unbanked into the formal financial system at low cost.

Simply offering financial services in digital form to remote communities may technically bring them into the formal system, but it does not necessarily fit with the holistic picture of inclusion described earlier. This holistic picture should consider the suitability and implications of access to these services for the community. In the case described above, simply providing access to formal bank accounts ends up costing indigenous communities more in service and access fees (due to community sharing), and fails to address a lack of knowledge on wealth creation and investment. Australia's indigenous communities share many overlapping socio-economic and demographic characteristics with unbanked populations in developing economies, such as geographic isolation, lower education and wealth, higher unemployment, and greater cultural heterogeneity (Godinho, et al., 2015). Taking these into considerations are important if financial inclusion is to avoid becoming a box-ticking exercise for generating bank accounts, which would undermine the objective of inclusion.

The Australian example also highlights concerns for financial inclusion in other cultural contexts. For instance, fintech has proven slow to develop and contribute to inclusion in some parts of the world which rely on Sharia-compliant finance, as some features of fintech stand in direct contrast to Islamic principles (Todorof, 2018).¹⁰ However, with some appropriate modifications for cultural and context-specific needs, fintech still represents great potential to foster financial inclusion in non-secular economies. The principles of Sharia strive for fairness, social inclusion, and balanced wealth, which should in principle, pave the way for financially inclusive fintech. Indeed, there are reports of Sharia-compliant fintech platforms emerging in Indonesia, such as Paytren and Investree (Cosseboom, 2017).

There are other limitations on just how inclusive fintech is purported to be. Take for instance blockchain, or more generally digital ledger technology (DLT). DLT is the framework that

¹⁰ This includes issues such as transactions with excessive risk or uncertainty or *gharar*; in the case of fintech specifically, this may relate to risks associated with the technology and the ability to assess risk. Some fintech products may also be linked to assets from industries considered *haram* (e.g., gambling, alcoholic beverages, or pork). The disintermediation role fintech serves in many transactions may also make the administration of Sharia law in finance more difficult.

underpins the cryptocurrency Bitcoin and others like it, and is often heralded as a boon for the financial inclusion agenda (World Economic Forum, 2016). While it can be argued that DLT and cryptocurrencies may improve inclusion in developed economies, their use as a financially inclusive tool in developing economies is far more questionable (Maniff & Marsh, 2017). Active participation in DLT is resource intensive, requiring enormous amounts of computing power and highly skilled individuals to verify the transactions in the absence of a central counterparty (Richards, 2018). While some individuals may enter the market at the small-scale payments level, the entry barriers to DLT payment facilitation and cryptocurrency technology are likely too high for economies with lower levels of literacy, numeracy, and wealth. Moreover, the transaction costs of DLT-underpinned payments often exceed those of traditional banking platforms (Wadsworth, 2018). In many ways, the term “cryptocurrency” is a misnomer—there will be a physical limit to the degree of inclusiveness that cryptocurrencies offer as long as they do not meet the formal definition of money¹¹ or are run by privately owned platforms or “permissioned” ledgers (Committee on Payments and Market Infrastructures, 2017). In the longer-term, it is possible to harness these technologies to increase inclusion in a range of economies; for example, through fintech platforms that serve as “miners” themselves to offer low-cost transactions.

DLT can facilitate cross-border financial transactions, as multi-party cross border transactions are based across different platforms, and coordination can be difficult and time-consuming for large transactions (Wadsworth, 2018; da Silva, 2018). However, most of the success of DLT-based platforms has been generated by large global banks with an established customer base (MacKnight, 2018), or through central banks which have continued in their role as traditional intermediaries albeit with newer technologies (Bank of Canada and Monetary Authority of Singapore, 2019). This shows that while technology is able to advance modern finance, the use of it does not necessarily equate to greater financial inclusion.

Risks in fintech and digital financial inclusion

Along with the deployment of fintech for financial inclusion are the risks inherent in new financial innovations and technology, including financial, economic, technological, legal, and consumer risks. These are outlined briefly below using some of the innovations discussed above, such as non-bank financial platforms, regulatory sandboxes, and DLT.

While fintech is arguably not a new concept—automated teller machines that became ubiquitous in the 1980s are fintech too—the majority of fintech business models that are being discussed now have been developed in a post-GFC world, and have yet to be tested by severe economic or financial shocks. Data gathering and reporting requirements, which vary from economy to economy but are generally lighter for fintech than the formal banking sector, leave open the question of how authorities should seek to respond to a crisis that originates from the digital world, with the likely presence of information asymmetry putting regulators at a disadvantage. These risks have been alluded to by a range of regulators (Mourmouras, 2019; da Silva, 2018; Brainard, 2018). Indeed, a number of P2P lenders in China have failed, leaving authorities to attempt to address the implications for their small-scale investors and re-evaluating links between the shadow and formal banking sectors (da Silva, 2018). Financial inclusion programmes enthusiastic to use fintech may not give adequate consideration for these

¹¹ Money is defined to be a store of value, highly liquid, readily and generally accepted as a means of payment for goods and services, and a unit of account (Richards, 2018). Modern money in large part draws its intrinsic value from the implicit or explicit backing of the central bank of issue.

implications, as well as the potential for other social problems. For instance, reports have surfaced in Kenya which suggest young men have been borrowing via mobile money apps in order to gamble, which has seen a marked rise in credit blacklistings (The Economist, 2018). This reflects the new opportunities that fintech brings for unscrupulous lenders with questionable practices: fintech can also give them access to previously untapped markets. Acknowledging this, regulators in Indonesia have recently considered ways to prevent fintech firms from adopting loan shark-like practices (Reuters, 2018). Gabor and Brooks (2017) argue that as attempts at financial inclusion promote the “financialisation¹²” of developing economies, fintech simply provides a means to access a previously untapped but potentially profitable market among the poor and economically excluded,¹³ making them more vulnerable to exploitation.

Fintech platforms can also be used to facilitate money laundering, terrorism financing, or fraud. For instance, Australia’s fintech start-up, Afterpay, which allows consumers to make purchases online and defer payments in instalments, is being investigated by the Australian Transaction Reports and Analysis Centre (AUSTRAC) for its anti-money laundering/counter-terrorism financing (AML/CTF) compliance records (Robin & Aston, 2019). It had previously been established that underage children could purchase alcohol and unverified users could potentially launder money through the Afterpay platform (Shapiro, 2018). There are other instances of fintech platforms offering services that appeal to criminals. Digital currencies such as Bitcoin present risks on this front due to their high degree of anonymity, the ease of cross-border transactions, and the lack of centralised regulatory oversight. Indeed, there have been several reports of criminal syndicates using cryptocurrency platforms to launder money, large-scale Bitcoin heists, and investor fraud (Alexander, 2019; Reuters, 2019; BBC, 2019).

While regulatory sandboxes encourage private sector innovation and financial development, they too can carry risks. Sandboxes have been criticised for undermining the role of regulators and offering high-risk opportunities for profit as well as free publicity (through inclusion in an innovative government-sponsored programme) while failing to adequately protect consumers (Kelly, 2018). Moreover, strong institutional frameworks, supervisory mechanisms, and technical knowledge are crucial if a regulatory sandbox is to function not as a less-regulated backdoor into the market but as a controlled hub for financial innovation.

The role of policy and regulation

New innovations are always difficult to regulate in a way that avoids both under- and overregulation as the uncertainties with unprecedented and untested technologies make it hard to find the appropriate balance. However, two consistent themes that have emerged from the successful use of fintech for financial inclusion are: (1) regulators need to create an enabling environment for fintech to be led by the private sector, and (2) that environment should be tailored to local economy characteristics.

¹² Gabor and Brooks (2017) use the term “financialisation,” as described by Bayliss et al. (2016), as the increased accumulation and deployment of interest-bearing capital for profit production. This includes the proliferation of new financial markets and the emergence of new domains of social and economic production.

¹³ Indeed, research has shown that those who are financially disenfranchised are more likely to bear usurious loans (Lewison 1999), and poor borrowers pay higher costs and interest rates from informal moneylenders and microinsurance firms (Rosenberg, Gonzales and Narain, 2009).

Striking the appropriate regulatory balance is difficult, as has been highlighted in the examples discussed above. In the case of Kenya, it was the higher internal prudential and regulatory standards set by the private provider of M-Pesa that contributed to its success: Saficom's standards in many ways proved more robust than the formal banking sector in Kenya (Burns, 2018). Similarly, the UK's P2P industry body generated its own set of regulations and reporting standards before the Financial Conduct Authority's P2P-tailored rules superseded them (Lu, 2018). However, examples in China of fintech platform failures also show that firms cannot be left to determine these standards alone (da Silva, 2018).

Regulators and traditional banking institutions need to be cooperative and collaborative with fintech enterprises in the pursuit of financial inclusion. Indonesia, for example, adopts a pragmatic attitude: regulators have chosen to focus on platforms that represent the greatest benefits and risks to the economy and have been nimble in their policy approach (Davis, et al., 2017). It will undoubtedly be challenging to strike an appropriate balance between collaboration and regulation, and the precise composition of this balance will vary depending on local economic environments. As demonstrated by India's example, the appropriate mix of laissez-faire and prescriptive regulation will evolve over time along with market conditions (Rhyne, 2015).

While new innovations have always required a new approach to regulation, the speed at which these innovations are developed adds another challenging dimension for policymakers. Regulators will need to strive to be technologically neutral while also fostering a degree of interoperability. It is clear that the private sector has a key role to play in developing domestic interoperable platforms, but regulators will need to be more involved in international coordination for cross-border applications of fintech. Care must be taken to make fintech regulations supportive and congruent with other global financial system rules regarding know your client (KYC), anti-money laundering (AML), and counter-terrorism financing (CTF) obligations, along with other cross-border concerns of APEC economies (e.g., fighting base erosion and profit-shifting and taxing the digital economy).

A key role of regulators and policymakers will also be to assess the ethical implications of fintech for financial inclusion. It would be inefficient to overlook the growing risks associated with the explosion of data that have been generated in the digital age and the implications this has across borders. This risk is clearly illustrated through data leak scandals like Cambridge Analytica, as well as the impacts of various data protection and privacy policies such as the General Data Protection Regulation (GDPR) in the European Union. While the digital economy needs broader policy consideration, specific attention needs to be paid to the data aspect of fintech in the context of financial inclusion. The ethics and acceptable bounds surrounding the use of big data and artificial intelligence to assess the suitability of a particular financial service for an individual have not been well established. New consumer protections will need to be developed in order to adapt to the changing way that sensitive information is gathered, processed, stored and disseminated, ensuring that fintech truly does facilitate inclusion rather than exclusion (da Silva, 2018).

Data rights are a relatively new concept, and some APEC member economies such as Australia are developing consumer data rights and "open banking" policies specifically in the context of the digital economy. This needs to be addressed as a priority, particularly in light of large technology firms expanding their reach into the financial sector through payments platforms and digital currencies. Indeed, as fintech becomes more integrated with the real economy, greater coordination will be needed between and within governments regarding economic and

technology policy. The likelihood of technological failures having unexpected effects increases dramatically in an increasingly digitalised and cashless economy. Although a future with fully digitalised economies remain some way off, questions over the future qualifications of regulators are already starting to emerge. It may be necessary for policymakers and staff at finance ministries and central banks to expand their areas of expertise beyond banking law and monetary economics to include IT engineering and software programming, among others.

Furthermore, the emergence of certain fintech is beginning to raise questions over the role of traditional intermediaries such as central banks. Central banks' role as lender of last resort, along with the execution of their mandates surrounding monetary policy, will become less clear in a decentralised and disintermediated financial system. Systemic risks will be more difficult to identify and manage, particularly in the cases of cross-border fintech and regulatory arbitrage. Threats to the independence and efficacy of monetary and fiscal policy may emerge in economies that begin to see digital or cryptocurrencies dominating the mediums of exchange. With the expansion of technology conglomerates into the fintech and finance space—such as AliPay, ApplePay, or Facebook's proposed Libra—regulators will need to ensure they do not preside over a new era of market concentration which breeds exclusion as much as inclusion, or in which technology firms become the new “too big to fail” firms and destabilise markets in new ways. Technology firms' access to mountains of consumer data and artificial intelligence has the potential to widen the gap between incumbents and entrants to the market, reducing competition and productivity. This is alongside the heightened risks to the financial system stemming from opaque internal practices and fragmented regulatory oversight. The IMF has raised these concerns, citing examples where technology growth has enabled broad access to financial products and services, but a few incumbent firms control virtually the entire market (Lagarde, 2019).

Finally, it should be noted that simply having bank accounts does not equal financial inclusion. It is one thing to bring people into the formal financial system, but it is another thing to keep them there, which takes into account issues of trust, operability, convenience, and capability. Hunter (2019) points out that proponents of financial inclusion have been so focussed on expanding the use of specific products such that some economies are now experiencing negative effects of their vision for financial inclusion, such as dormant accounts, over-indebtedness, or huge increases in credit blacklisting. Mason & Shetty (2019) also note that poorer households are less likely to benefit from digital payments systems even when they do have a formal bank account. This emphasises the importance of making sure financial inclusion policies are fit-for-purpose and address the needs of the target populations in a sustainable manner. Property rights, consumer protection, and financial and digital literacy are key pillars of fintech development that will support financial inclusion.

3. CHALLENGES AND PRIORITIES

Economies have listed a wide range of challenges and priorities regarding the use of fintech to promote financial inclusion (see Appendix A for economy case studies and Appendix B for Individual Economy Reports (IERs)). Economies, in their case studies and IERs, point to four main areas of concern: regulatory and institutional reform, ensuring access to financial services, improving financial literacy, and consumer protection and law enforcement.

REGULATORY AND INSTITUTIONAL REFORM

As financial institutions leverage on emerging technologies to broaden their services and foster financial inclusion, traditional regulations may start to become ill-fit in a digital economy and even pose as a barrier to innovation. Reforming legacy financial regulations and institutions to fit the needs and context of a new economy is a key challenge faced by APEC economies.

As noted by Japan and Russia, reforming financial regulations and institutions require the cooperation of various government bureaus and agencies. On top of consulting with government bodies, economies like Canada; Papua New Guinea; and Chinese Taipei pointed to the need of engaging constantly with stakeholders to understand their needs. The task of regulatory reform hence necessitates APEC economies to reconcile the public policy objectives of various government bureaus and to consult the public and business sector on their needs.

In addition to reforming regulation, APEC economies also noted their desire for government bodies to utilise fintech as a complement to their services. Chinese Taipei aims to encourage government agencies and SMEs such as small stores and medical institutions to use e-payment systems, but faces obstacles such as the inability of point-of-sale systems to handle such digital transactions. Governments can serve as a main driver for digital transformation, but they will fulfil that role better if they spearhead an effort to ride on emerging trends.

ENSURING ACCESS TO FINANCIAL SERVICES

Another overarching challenge raised is improving access to financial services in the face of socioeconomic and infrastructure constraints. For example, infrastructural constraints mean that people in remote areas may not have access to institutions that offer financial services. Some businesses such as MiBank in Papua New Guinea and Cantilan Bank in the Philippines attempted to address this by using fintech to provide financial services in remote regions where a physical branch might not be cost-effective. Likewise, Russia launched its Remote Identification Mechanism—a fintech platform that enables remote access to financial services through biometric (i.e., facial and voice recognition) verification—to facilitate access to financial services for people living in remote areas.

Even economies with good infrastructure and access to financial services can have challenges related to financial inclusion. Chinese Taipei mentioned that financial institutions should also cater to people with limited mobility and disabilities, and has established public consultations with people with disabilities as a part of ongoing discussions to establish a uniform regulatory requirement for accessible financial services. This is particularly relevant as several APEC economies like Japan forecast an aging population, leading to a larger share of the market catering to the financial needs and physical capabilities of the elderly.

On the other hand, Chile mentioned that fintech has the potential to facilitate remittances for migrants, but efforts are needed to reduce the risks of money laundering and unregulated money transfers, in the process protecting legitimate remitters as well. Meanwhile, Russia is looking into upgrading digital infrastructure to improve the speed and quality of access to internet-facilitated financial services in remote and rural areas. Hong Kong, China cited challenges to improving financial inclusion and access to credit for SMEs.

IMPROVING FINANCIAL LITERACY

Financial education is crucial not only to increase demand for financial services but also to ensure that people can maximise their benefits from financial inclusion. Most economies are actively seeking ways to improve financial literacy. They affirm that the education strategy should target the right demographic. Students, for instance, can easily adapt to fintech options for financial services, but may not have substantial practical experience due to limited financial resources. On the other hand, the elderly may have difficulty using technologies, and would need specialised guidance to use such technologies.

Australia and Chile noted efforts to extend financial literacy to indigenous groups and minority populations, such as by developing indigenous financial education materials or providing subtitles and sign language in local languages in their outreach efforts. Meanwhile, Indonesia emphasised that since most financial services rely on digitalisation, their approach to financial literacy goes hand-in-hand with their overall strategies in digital literacy. However, the capacity of economies to address financial literacy varies widely, and some economies like Mexico have flagged challenges in deciding on the best policy action given uncertainties over their outcome.

Canada also raised an important point on financial literacy, noting that while most financial literacy programmes focus on disseminating information about financial services, this knowledge does not necessarily lead to the adoption of prudent financial behaviour such as budgeting or investing. Beyond spreading information about financial services, economies should also aim to develop money management skills to help consumers improve their financial security.

CONSUMER PROTECTION AND LAW ENFORCEMENT

Financial technology has enormous potential to improve financial inclusion, but their repercussions on consumer protection and privacy—and the appropriate policy responses to ensure them—are still being played out. Likewise, the speed and ease of financial transactions facilitated by fintech can make them ideal tools for money laundering or financing of illegal activity and terrorism. While economies are keen to stimulate innovation in the sector, economies are also cognisant of the risks of the growing role played by digital transformation in financial services.

Japan and Russia noted that determining the appropriate level of data protection and privacy has become an important consideration in policy deliberations. Some economies are looking into ways to control what types of financial information can be disclosed to financial institutions and third parties. As client identification is essential in providing financial services, government bodies and businesses in Papua New Guinea and Thailand have explored using personal information such as fingerprint scans and identification card numbers as a verification method. However, as Japan noted, client anonymity and privacy are also important to consider especially in the context of data transfers between firms and across borders. Economies are therefore pondering what types of data protection should be put in place, what types of data can be collected, and to what extent can data be disseminated across firms and borders.

4. POLICY APPROACHES AND RESPONSES

As economies have varied challenges and priorities regarding financial inclusion, their strategies and policy approaches likewise vary. Some economies have initiated a top-down economy-level strategy for financial inclusion, while others opted for more targeted policy interventions. Economies have also instituted regulatory sandboxes to encourage innovative technologies and business models while protecting the larger market from possible negative externalities. Promoting financial literacy and digital payments is another key intervention for economies, with policies for competition and data protection implemented to ensure consumer welfare.

MACRO AND SECTORAL POLICY APPROACHES

To address financial inclusion on a holistic level, economies have looked into establishing economy-wide roadmaps to guide their policymaking as well as sectoral approaches to reach specific stakeholders.

Roadmaps and strategies can provide a guide for further policy development and refinement, helping to establish achievable aims and rubrics for economies to aspire towards as they work on improving financial inclusion. For example, Russia has established two economy-wide strategic documents: the Financial Inclusion Strategy for the Russian Federation for 2018-2020, and the Strategy for Improving Financial Literacy in the Russian Federation for 2017-2023. These documents explicitly aim to improve the accessibility and quality of financial services for remote communities and individuals and entities with limited access to financial services (disabled, low-income, elderly), as well as promote financial literacy and consumer protection.

Meanwhile, Hong Kong, China has introduced measures to support the development of the fintech industry through the establishment of a Fintech Facilitation Office. In 2017, the Hong Kong Monetary Authority announced seven initiatives to promote “smart banking” covering aspects such as virtual banking, the Faster Payment System (FPS), a fintech supervisory sandbox, and development of a DLT platform to digitalise trade and trade finance.

Economies are also keenly aware of the importance of fintech and financial education in financial inclusion. Thailand has laid out three pillars to promote fintech: the improvement of soft digital infrastructure, the use of fintech in specialised financial institutions, and the provision of incubation space (regulatory sandboxes). Chile also launched its Financial Education Strategy in 2016 to provide a roadmap on financial education long-term goals.

On the other hand, a sectoral approach can enable economies to target specific groups in their economy for financial inclusion initiatives. For example, Australia; Chile; and Chinese Taipei are extending financial literacy measures to indigenous groups, taking into consideration specific issues related to different languages, unique culture, and geographical constraints.

Papua New Guinea has focused on women in rural areas as one of the priority groups in their first and second Financial Inclusion Strategies. These strategies include disseminating financial knowledge to women, the use of biometric technology in financial transaction, and bringing financial transaction closer to the rural communities. Similarly, Chile conducted the Crece

Mujer Programme where they trained and provided financial education for more than 12,000 women working in SMEs.

Focusing on rural communities, the Philippines enacted the Personal Property Security Act (Republic Act 11057) in 2018 to improve access to credit among farmers, fishermen, and SMEs by allowing them to secure obligations using personal (i.e., movable) property. On the other hand, Singapore's Digital Readiness Blueprint aims to bridge the digital divide through the involvement of community partners and voluntary welfare organisations to bring financial education to the more vulnerable segments of the population.

REGULATORY SANDBOXES AND INCUBATORS

Financial market regulators need to balance the promotion of fintech innovations with managing the risks of untested technologies and business models. Some economies like Indonesia have established specific regulations for digital financial services (e.g., Otoritas Jasa Keuangan (OJK) regulation number 13, 2018), while Singapore has adopted a more flexible approach, regulating new business models based on existing regulation applicable to the business' main activities.

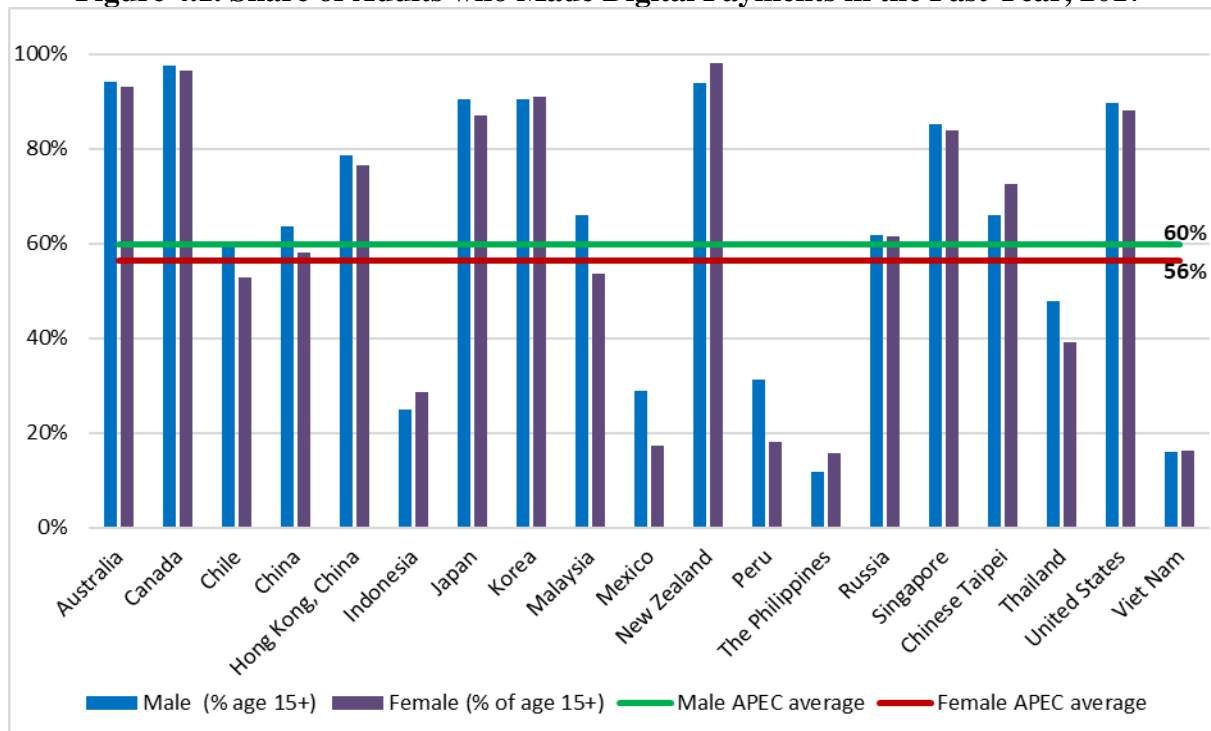
Another way economies have balanced innovation with risk management is by establishing regulatory sandboxes and incubators, where innovative firms can pilot their business ideas in a controlled environment, allowing them innovate but also contain their risks to their clients. APEC economies such as Canada; Indonesia; Japan; Malaysia; Mexico; the Philippines; Russia; Singapore; Chinese Taipei; and Thailand have established mechanisms for regulatory sandboxes.

Facilitating the use of these sandboxes is also important to encourage innovation. For example, Singapore has established pre-defined regulatory sandboxes, known as Sandbox Express, to provide an expedited process for sandbox approval for business proposals that are partially regulated. On the other hand, Indonesia established the Otoritas Jasa Keuangan Fintech Centre (OJK Infinity) to provide a regulatory sandbox that also doubles as an education centre for financial service players and consumers. Results from the use of regulatory sandboxes have been promising: in Thailand, one start-up incubated in a sandbox has contributed to the establishment of the standardised QR code for payment.

DIGITAL PAYMENTS

Utilisation of digital payment systems varies across the APEC region. On average, about three out of five adults in the region are able to make payments through mobile money, credit or debit cards, mobile phones, internet, or direct account transfers (Figure 4.1). However, across APEC economies utilisation of digital payments can vary from near 100% access in Australia; Canada; and New Zealand to below 20% in the Philippines and Viet Nam.

Figure 4.1. Share of Adults who Made Digital Payments in the Past Year, 2017



Note: No data for Brunei Darussalam and Papua New Guinea. Figures show the percentage of adults (aged 15+) who report using mobile money, a debit or credit card, or a mobile phone to make a payment from an account, using the internet to pay bills or to buy something online, or paying bills or sending remittances directly from a financial institution account or through a mobile money account in the past 12 months.

Source: World Bank Global Findex Database.

In Australia, the e-payments code of conduct is a voluntary code of practice, and banks and other entities are not obligated to subscribe to the code. One reason for keeping the e-payments code voluntary is the challenge of “future proofing” the code given continuing technological developments.

Standards for digital payment systems is another priority mentioned by APEC economies. Thailand is aiming to establish a unified economy-wide QR code while Mexico has created a standard digital payments platform called Cobro Digital (CoDi), an initiative spearheaded by the Bank of Mexico and the Ministry of Finance and Public Credit. On the other hand, the Philippines has taken a more decentralised approach: the E-Commerce Act (Republic Act 8792) allows central government agencies and local government units to develop or acquire their respective e-payment systems.

Mobile payments are on the rise, and some economies are aiming to incorporate it into their government functions. Chinese Taipei aims to incorporate digital payments in their government agencies and medical institutions. The Philippines’ inter-agency Financial Inclusion Steering Committee (FISC) similarly aims to promote the usage of digital payments in payments of government fees, bills, and salaries. Chile’s Banco Estado has linked the mobile payment system, PagoRUT, to the tax identification number of an individual, while Papua New Guinea has businesses and government agencies experimenting with the use of biometric data (fingerprint, facial and voice recognition) as a method of identification for digital financial services.

PROMOTING FINANCIAL LITERACY

APEC economies have implemented various approaches to financial literacy. Japan; Russia; and Chinese Taipei have taken an informational approach in promoting financial literacy, disseminating information pamphlets, organising campus events for students, and creating videos and websites to inform the public on financial tools and budgeting skills.

Meanwhile, Chile and Papua New Guinea took a hands-on approach to introduce people to financial services. Chile's Banco Estado began by offering a CuentaRUT account, which is linked to an individual's taxpayer number and can be used for government transactions (e.g., receiving government subsidies). This raised awareness on the usefulness of having a bank account and helped expand public awareness of various financial tools including an e-payments app called PagoRUT. In Papua New Guinea, MiBank introduced a "pay-as-you-go" solar energy kit to provide electricity for those without access to the power grid. Procuring the solar energy kit and electricity requires having an account with MiBank and using a mobile wallet, leading to increased familiarity with both the fintech and the various financial services on offer.

Canada's approach to financial literacy is to develop financial management skills, with the view that financial inclusion is an ongoing process that only begins with access to an account. Every five years, Canada conducts the Canadian Financial Capability Survey to measure not only public awareness of financial resources, but also their budget management capabilities. In 2015, the Financial Consumer Agency of Canada (FCAC) launched a Strategy for Financial Literacy ("Count me in, Canada") which aims to help Canadians manage money and debt wisely, plan and save for the future, and prevent and protect against fraud and financial abuse. One pilot initiative of the FCAC used a mobile app called Carrot Rewards to provide reward coupons for users who read messages about budgeting and took basic quizzes. Results showed that during the course of the pilot, the FCAC was able to raise the number of people creating a budget plan. As noted by Canada, "nudge" interventions may be useful for inculcating good financial practices to improve the public's financial literacy. Likewise, Russia launched a website for promoting financial literacy—<http://vashifinancy.ru>—that contains an educational e-library and news-feed and helps people to get access to various financial literacy textbooks, manuals, online simulators and calculators, games, cartoons, and comics.

Australia noted that access to financial resources could also render people vulnerable to risks. In 2009, Australia passed the Consumer Credit Protection Act, which contains a requirement to warn clients of the high cost of loans. This reduces the susceptibility of borrowers to debt spirals and repeat borrowing.

COMPETITION AND CONSUMER PROTECTION POLICIES

While vast troves of consumer data can help financial firms to develop and tailor services to their clients, this data can also be used in an anticompetitive manner by exploiting network effects and preventing competitors from gaining clients. To address this risk, some economies have introduced open banking regulations. Australia, for example, announced this initiative in their 2017-2018 budget for selected sectors (i.e., banking, energy and telecommunication), allowing consumers to share their financial data with third parties in a secure environment. This initiative is expected to empower consumers in their decision-making and stimulate competition and innovation in the financial services sector. Meanwhile, Canada is undertaking stakeholder consultations on implementing an open banking regime, aiming to assess the best

policies to ensure a competitive financial sector while placing assurances on consumer privacy, security, and financial stability. Chile and Chinese Taipei are also exploring possibilities to introduce open banking, subject to their domestic assessments and consultations.

Economies are introducing new guidelines and standards to ensure the protection of consumer information. Malaysia, for example, published the Standards on Management of Customer Information and Permitted Disclosures in October 2017. The standards underline the need for financial service providers to implement strict policies and procedures to safeguard the security and confidentiality of customer data from collection to disposal. Similarly, Chinese Taipei issued the Principle for Financial Service Industries to Treat Clients Fairly in 2015. An assessment mechanism to monitor its implementation will be set up within the year. Thailand has also issued its regulations on P2P lending, ensuring that proper consumer protection measures and risk management are conducted by lending platform providers.

Another way to ensure consumer protection is to experience it first-hand. Russia's Ministry of Finance regularly conducts an independent mystery shopping exercise to monitor the application of consumer protection policies in various financial firms. This programme also collaborates with consumer advocacy organisations to survey the level of financial accessibility for the elderly and people with disabilities.

5. CAPACITY BUILDING NEEDS

Economies have mentioned various needs for capacity building within their contexts, but they can be viewed under three broad categories: (1) finding the right regulatory balance and policy approach, (2) developing skills for central bank and finance ministry staff, and (3) bridging the digital divide to ensure digital and financial inclusion.

APPROPRIATE POLICIES AND REGULATORY BALANCE

Almost all responding economies have indicated that they would need to build capacity in finding the right mix and approach to promoting fintech, updating legacy regulations, and crafting regulatory sandboxes. As Chile mentioned, financial services are built on trust, so it is crucial for economies to build a comprehensive, flexible, harmonised, and modern regulatory and legal framework that fosters technological innovation and the development of new business models, but also protects clients and businesses, especially as new financial services may be operating in legal grey areas. Finding the appropriate mix of policies and regulations is key to achieving financial inclusion through fintech. Some of the key balancing challenges are:

- Regulatory flexibility and openness versus risk mitigation and protecting public interests
- Incentivising innovation and providing a space for experimentation versus risk mitigation and protecting public interests
- Enabling firms to operate efficiently (including by sharing data across firms and borders) versus ensuring consumer protection and privacy and enabling enforceability of domestic laws

- Utilising data to encourage growth and investment versus avoiding anticompetitive behaviour among incumbent firms
- Reducing financial transactions procedures and costs versus preventing money laundering and financing of terrorism

There is also a need to develop appropriate technical standards for data privacy, cybersecurity, and consumer protection. Setting appropriate standards can be done by regulators in collaboration with financial institutions, fintech firms, and consumer advocacy groups. As many financial transactions are done across borders, there is also a need to have a regional approach to developing these standards to ensure that they are harmonious and do not hinder legitimate cross-border transactions.

UPGRADING SKILLS

As fintech is a relatively new field, many economies have identified a wide range of skills that need to be developed to adapt to a quickly changing environment. Fintech resides in the digital ecosystem, so there is a need to train policymakers to leverage on and be familiar with analytical tools for the digital economy. Moreover, a better understanding of the underlying financial technologies can enable the development of policy that can facilitate the digital delivery of innovative financial services, such as platforms for value-chain financing. Some specific skills include:

Regulation in a digital financial ecosystem. There is an overall need to update general principles of regulation in digital financial markets; in some cases, an overhaul of traditional models of regulation is required. For example, definitions of antitrust and anticompetitive behaviour in a digital economy need to be updated, as market power may no longer be measured through fees and charges but the use of network effects and data to deter market entry. Likewise, value-chain financing presents challenges to traditional business models due to the quick turnaround needed and the use of purchase orders or receivables (rather than assets or property) as collateral. Digital platforms present an opportunity to facilitate value-chain financing, but requires an understanding of new financial business models.

Software programming and code analysis. Regulators may be increasingly called on to inspect software codes for fintech products to ensure that they have the right protocols for consumer protection or they do not contain potentially harmful code. Financial market regulators may need to be software programmers in addition to being lawyers and monetary economists.

Big data analytics and management. The digital economy provides many new sources of financial market and consumer information, and regulators could develop the skills to use these data for market monitoring and evidence-based policymaking.

Regulatory technology (regtech) and supervisory technology (suptech). Innovations are being made in regtech and suptech, and financial authorities need to be updated on new tools and technologies for the digital economy.

Use and application of distributed ledger technologies. Distributed ledger technologies (DLT) such as blockchain have many potential applications in facilitating financial

transactions. As mentioned by Hong Kong, China, the wider application of DLT can also promote cross-border trade through (i) improvements in financial inclusion to underserved entities (e.g., SMEs) through enhanced credibility of trade processes; (ii) wider adoption of digital trade finance platforms to enhance efficiency and transparency of trade processes, and opening up new trade finance opportunities at lower risk to banks; and (iii) coordinated development of digital trade finance platforms to enhance their interoperability, avoid market fragmentation, and maximise the benefits of digitalising trade processes.

Rigorous policy analysis. The digital economy presents many unprecedented challenges for policymakers. Skills in ex-ante assessment of proposed policies and regulations will help predict likely costs and benefits associated with the introduction of new policies. On the other hand, ex-post impact evaluation of policies and regulations will enable evidence-based policy review, reorientation, and reform.

BRIDGING THE DIGITAL DIVIDE

A prerequisite for financial inclusion through fintech is the bridging of the digital divide. Many economies have cited the need to ensure access to digital infrastructure such as broadband or mobile internet, digital tools such as computers or mobile phones, and digital skills and literacy. Mexico and Papua New Guinea mentioned that infrastructure development is a key issue that impedes their capacity to take advantage of fintech. In particular, they are keen to explore strategies implemented in other economies on how to increase inclusive access to ICT. The Philippines pointed out that digital infrastructure development is beyond the scope of financial regulators, so a fintech approach to financial inclusion necessitates a whole-of-government approach involving cross-sectoral and cross-ministerial partnerships.

Financial and digital literacy are key challenges for most APEC economies, and approaches to integrate both into general education curricula are underway. A specific challenge mentioned by Mexico but relevant for most APEC economies relates to digital and financial literacy for the elderly. Before elderly clients can access financial services through fintech, they first need to develop skills in using mobile phones and computers; however, their advanced age may present constraints to developing these skills. Indeed, achieving financial inclusion for various disadvantaged groups—such as people with disabilities and ethnic minorities in remote areas—present challenges unique to their circumstances and will require tailor-made approaches.

More could also be done to provide poor households with access to digital financial services. While there has been significant work in improving the poor's access to credit such as the promotion of microfinance, more attention is needed to ensure that the poor are not excluded from the growing opportunities and services in the digital economy. As economies become more digitalised and cash is replaced by online payment platforms, access to bank accounts and financial services—as well as the digital devices and infrastructure needed to use them—becomes a requirement for economic participation even for households with no savings or credit.

6. ROLE FOR REGIONAL COOPERATION

While financial inclusion is often an economy-level priority, all economies that provided inputs pointed to the important role of regional cooperation in achieving these objectives. Sharing of experiences and best practices is a key part of capacity building, allowing policymakers and regulators to learn from regional peers and find solutions to common problems. Engagement with international organisations also yields a wealth of experience in addressing challenges to financial inclusion. APEC has a key role to play by developing work plans, fostering dialogue and focusing minds to find regional solutions to regional problems.

SHARING EXPERIENCES AND BEST PRACTICES

All economies are keen on learning from—and sharing—best practices to improve financial inclusion. In the case of regulatory reform, Australia has been active in ASEAN with their Shaping Inclusive Finance Transformations (SHIFT) programme. Under the programme, Australia provided financial and data analysis resources to support financial inclusion initiatives, as well as networking platforms among policymakers, regulators, and financial service providers.

Canada; Japan; and Singapore are keen on sharing on their efforts in going beyond financial literacy and encouraging good financial practices. Canada shared the lessons learned and best practices on financial inclusion and minimising the gap through digitalisation, while Japan and Singapore shared their publications that focus on the financial inclusion agenda in both economies. Indonesia is also keen on discussing its approach to branchless banking service under Otoritas Jasa Keuangan (OJK) and Bank of Indonesia's "Laku Pandai", which can help economies requesting assistance to provide financial tools for people in remote regions.

Given the importance of international partnerships in advancing financial inclusion, economies have also suggested greater cooperation with various international organisations. For example, the Alliance for Financial Inclusion (AFI) promotes access to and usage of quality financial services for various communities. On the other hand, the ASEAN Financial Innovation Network (AFIN), with its API Exchange (APIX) platform, enables financial institutions to collaborate more easily through experimenting solutions in a contained environment and thereby deepen access to finance for underserved segments of the population.

Both the ADB and the OECD underlined their commitment to support APEC's financial inclusion agenda, including by providing inputs to this report. The ADB shared case studies of the pilot projects that it has funded that involve the introduction of new fintech tools in several Asian economies, of which two are from APEC. Under a grant from the ADB, the Philippines-based Cantilan Bank partnered with the cloud service provider, Oradian, in 2017 to migrate all of the bank's branches and services across 12 provinces to the cloud, leading to reduced operating costs and increased accessibility to their services. In Papua New Guinea, the ADB is designing with MiBank and Women's Microbank a digital access tool utilising smart cards and near-field communication (NFC) technology to overcome infrastructure limitations such as lack of internet connectivity and electricity. Through such cases studies, the ADB provided ideas for APEC economies looking to adopt new technologies and innovative approaches to achieve financial inclusion.

Meanwhile, in support of APEC's financial inclusion agenda, the OECD has published the 2018-2019 OECD/INFE (International Network on Financial Education) report on financial education in APEC economies. The OECD also assisted individual APEC economies with data collection to help them design their strategies, frameworks, and policies to promote financial inclusion. This year, the OECD launched a survey covering retail investors and crypto-assets in Malaysia; the Philippines; and Viet Nam, which would help the APEC economies assess the feasibility of crypto-assets as investment and financing tools in the region. The OECD has suggested opportunities for future collaboration with APEC, like working on case studies to promote financial innovation, assessing constraints to financial inclusion for women and youth, and inviting economies to join the 2019-2020 OECD/INFE exercise or the OECD Scoreboard on Financing SMEs and Entrepreneurs.

ROLE FOR APEC

Research and capacity building could help advance the financial inclusion agenda by identifying challenges and exploring opportunities for regional cooperation in policy, regulation, and implementation. While many international organisations have done a considerable amount of work in promoting financial inclusion particularly at the domestic level, APEC can contribute by taking a regional approach to financial inclusion work, emphasising the importance of regional cooperation in a cross-border digital economy. Some of these opportunities for APEC value-addition and cross-fora collaboration are mentioned below (possible APEC fora partners for FMP are mentioned in parentheses):

1. **Improving Data on Financial Inclusion (DESG).** Current data on financial inclusion—often gathered as part of ad hoc studies—is often incomplete, irregular, and incompatible. Better data on financial inclusion that is timely, accurate, and regionally compatible is needed. Work needs to be done to harmonise and synergise existing data sources, and the opportunities of big data from digital platforms needs to be explored. Primary data gathering on financial inclusion through field surveys (e.g., as part of regular labour, firm, or household surveys) is also needed, especially to gather insights on those who are unable to access financial services. Capacity building for data gathering and reporting is especially beneficial for economies that do not have the capacity to gather domestic data on financial inclusion.
2. **Challenges and Opportunities for Digital Financial Inclusion (DESG, SCE).** While significant work has been done on barriers to financial inclusion in general, more work is needed for digital financial inclusion in particular. With rapid dynamic technological changes, economies need to identify existing and potential barriers to digital financial inclusion. Meanwhile, digital financial innovation can open up opportunities for financial inclusion, making it easier and cheaper to deliver services to more people. Knowledge sharing on the use of digital technology for financial inclusion while addressing structural or legal barriers can help economies navigate the quickly changing digital economy.
3. **Improving Women's Access to Financial Accounts (PPWE).** An important step towards greater financial inclusion is ensuring that people have access to a financial account that can make or accept transactions, whether in a bank or other formal financial institution. In the APEC region, a significant disparity in access can be seen between APEC economies: while there is near universal access to accounts in developed APEC economies, almost a third of adults in developing APEC economies

have no financial accounts. There are also marked gender differences in access to financial accounts, with women's access being 10-20 percentage points lower than men's in some economies. This disparity calls for a deeper and closer examination of the prevailing socio-economic and structural conditions that hinder women's access to a financial account. Case studies and best practices that specifically tackle ways to address barriers to women's financial and credit access could contribute to APEC's efforts on promoting women's participation in the economy and financial inclusion.

4. **SMEs and Financial Innovation (CTI, SMEWG).** It is estimated that SMEs make up around 97 percent of businesses in the APEC region, employing about 50 percent of the workforce and contributing 20-50 percent to GDP growth¹⁴. The aggregate impact of SMEs is significant. SMEs stand to gain from improved access to digital payments infrastructure, online platforms, and innovations in capitalisation (e.g., crowdfunding) to facilitate entrepreneurial growth and internationalisation. SMEs also have the potential to generate financial innovations: many commonly used digital payment platforms and fintech solutions today are creations of SME start-ups. Knowledge sharing for promoting financial inclusion and innovation among SMEs could aid economies with similar policy objectives.
5. **Balancing Financial Innovation and Consumer Protection (DESG, EC).** Authorities continue to grapple with promoting financial innovation while ensuring consumer protection and security. Overregulation of financial markets and fintech can discourage innovation, reduce risk appetite, and dampen business dynamism. On the other hand, under-regulation can be detrimental to consumer protection since it gives rise to excessive risk-taking, contributing to financial instability. This issue is even more pertinent in a digital economy where policies on data handling, sharing, and protection have implications on market share, expected profits, privacy, and security. Sharing knowledge and experience in striking this balance can help economies craft policies that support innovation while mitigating risks.
6. **Ensuring Competition in Digital Financial Services (DESG, EC).** Traditional financial market competition policies may not be adequate for preventing anticompetitive financial market behaviour in a digital economy. First-mover fintech firms can use network effects and non-interoperability to discourage the entry of potential competitors. Established firms with a large consumer base can use data for anticompetitive practices, such as targeted bundling of services or denying competitors access to market data. Moreover, there may be disparities in competition and transparency requirements for traditional financial firms and fintech firms, giving the latter more opportunities for anti-competitive behaviour. Sharing of experiences and best practices in modernising competition policy will help economies promote a competitive digital financial market.
7. **Review of Consumer Protection Policies (CTI, DESG, EC).** APEC economies have put in place consumer protection policies that cover a wide range of financial institutions, products, and services. A review of these policies in the context of a digital economy and financial innovations could be conducted to gauge its relevance and

¹⁴ See <https://www.apec.org/Groups/SOM-Steering-Committee-on-Economic-and-Technical-Cooperation/Working-Groups/Small-and-Medium-Enterprises>.

effectiveness as well as potential contradictions. This review can then contribute to regional cooperation in consumer protection: harmonisation of consumer protection policy is especially important considering the cross-border implications of financial innovations and digital technology.

7. CONCLUSION

Technology, with its plethora of innovations and changes introduced in a rapid fashion, is posing both opportunities and challenges to the financial inclusion agenda. Financial inclusion initiatives today need to keep up with the changes that technology brings, which have dramatically and automatically transformed businesses and people's lives. Technology can open opportunities for greater financial inclusion by enabling financial institutions to provide services to a wider geographical area at a lower cost, not only complementing efforts at financial literacy but also contributing to the expansion of financial services in rural and remote areas.

Technology-based financial innovations are here to stay, and the greater focus given by international organisations to the promotion of financial innovations reflects their growing importance. Economies need to know what to adopt, when to adopt, and how to adopt innovative financial technologies. Although different economies would have varying approaches to financial inclusion, having an evidence-based and regional capacity building package could help them to develop appropriate financial inclusion strategies that consider economic conditions and development priorities.

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APPENDIX A: CASE STUDIES

CANADA

I. Introduction

Studies have shown that money issues are the greatest source of stress for Canadians¹⁵ – higher than work, health or family obligations. This stress has been growing amid a broader trend of rising household debt levels and declining savings rates in Canada.

The reasons for financial stress are many. People today face a lot of challenges when it comes to making financial decisions. Retirement planning and investing are complex, and the options for credit cards, mortgages and other credit products have multiplied. Fintech innovations can contribute to this complexity, making even more financial tools and choices available. And, easy access to online brokerage tools can increase the likelihood of people trading too frequently and hurting long-term returns.

Research has consistently shown that many Canadians lack the knowledge, skills and confidence needed to manage money effectively. Surveys conducted by the Government on Canadians' financial capabilities¹⁶ and behaviours have revealed that:

- Almost one in three Canadians were struggling with bills and payments, with half of that segment relying on some form of credit to make ends meet.
- More than half of Canadians did not use a budget, and that proportion has increased over time.
- One in three were not preparing financially for retirement, and a relatively small proportion are aware of how much they would need to save to maintain their standard of living in retirement.

Strengthening financial literacy through online content, tools and other programs can help educate Canadians and give people the confidence and ability to make informed financial decisions and to feel more in control of their money. Further, financial education programs in the workplace can lead to more Canadians learning to manage money and debt wisely, and planning and saving for the future. Financial stress not only has an impact on individuals and families, but can also have harmful effects in the workplace, driving down employee performance, attendance and morale.

¹⁵ E.g. studies undertaken by the Financial Planning Standards Council of Canada, Manulife Insurance, Ipsos Reid.

¹⁶ In particular, these results are based on results from the Canadian Financial Capability Survey conducted in 2009 and 2014.

II. Canada's Financial Literacy Efforts

In 2015, the Financial Consumer Agency of Canada (FCAC) launched a National Strategy for Financial Literacy – called “Count me in, Canada”¹⁷ – to help Canadians towards the following goals:

- Goal 1: Manage money and debt wisely
- Goal 2: Plan and save for the future
- Goal 3: Prevent and protect against fraud and financial abuse

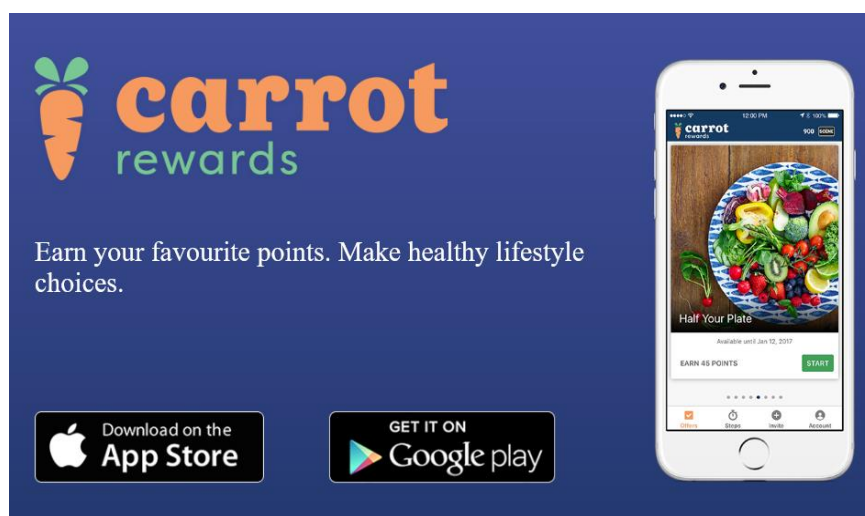
Under this strategy, FCAC launched a number of innovative initiatives and engaging approaches to reach Canadians. Two examples that employ mobile and online technologies, are profiled here.

Carrot Rewards

Launched in 2016, this FCAC pilot initiative was delivered through a mobile ‘app’ called Carrot Rewards. Users of the app were sent simple learning activities designed by FCAC that included reading education messages about budgeting and taking basic quizzes. In return for completing these exercises, users were rewarded with loyalty points for major retailers that they could redeem for movies, gas, groceries, and other benefits.

The results of the pilot were overwhelmingly positive. The app was a cost-effective way to reach a large audience of 150,000 Canadians,

across a wide range of age groups, from age 17 to age 60 and over.



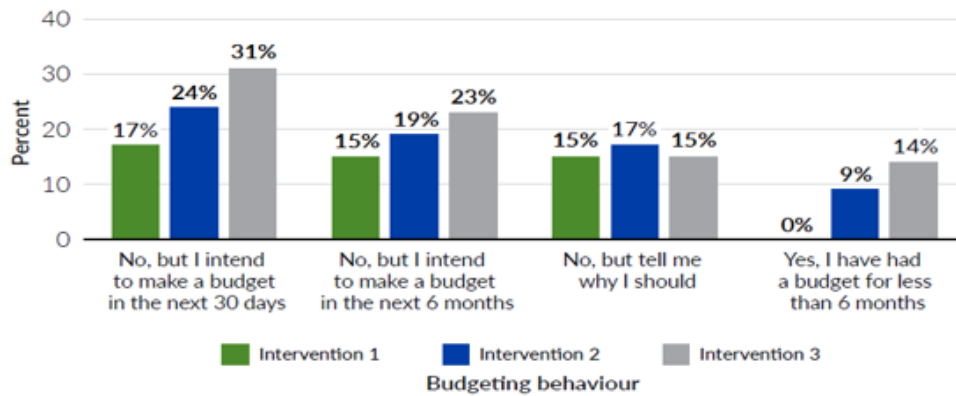
Through built-in questionnaires, the app was able to track how users’ financial knowledge and habits evolved. Results from the pilot showed that individuals who did not initially have a budget and who progressed through a program of three lessons or ‘interventions’, demonstrated measurable improvements in their financial confidence, knowledge and behaviour – including a 14 percentage point increase in the share who are budgeting by the third intervention (see figure 1).

In 2018, a follow up was conducted with the users from the pilot, and showed that the positive results had lasting effects. Over half (54%) of those who began budgeting during the pilot were still budgeting one and a half years later. Further, almost one-third (32%) of those who intended to budget after completing the pilot study followed through with those intentions.

¹⁷ “National Strategy for Financial Literacy — Count me in, Canada” (Financial Consumer Agency of Canada, 2015)

The information gathered through the app has also provided useful insights to help the FCAC shape its programming. For example, it has helped the FCAC learn more about what people’s biggest barriers to successful budgeting are – including notably that many simply do not know where to begin, and many have difficulty differentiating between their spending “needs” versus “wants”.

Figure 1. Changes in Budgeting Behaviour and Intent to Create a Budget over the Course of the Pilot Project, among Initial Non-budgeters

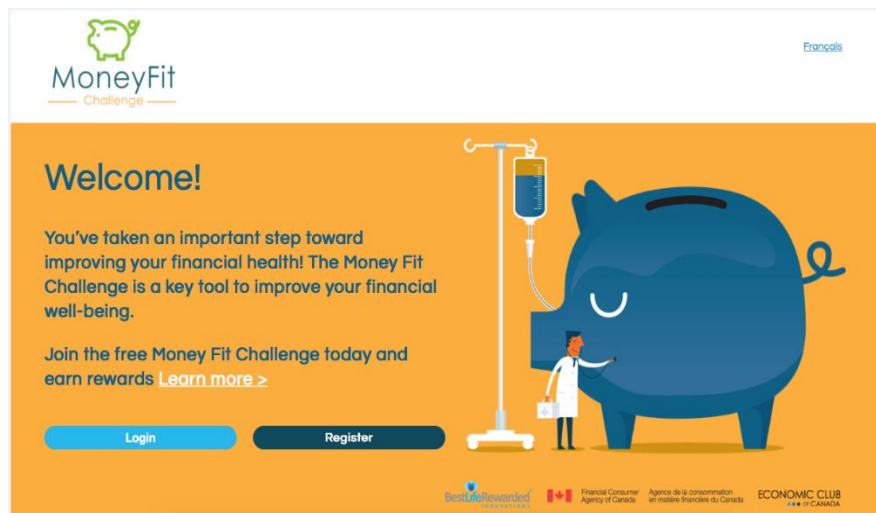


The Carrot platform has also been used by other Canadian government departments for public education on topics such as energy conservation, nutrition and health, as well as to gather information from the public for our statistics agency.

The MoneyFit Challenge

Given the effects of financial stress on workplace well-being and productivity, FCAC partnered with a company called BestLifeRewarded Innovations to create an incentive-based pilot program aimed at the workplace. The MoneyFit Challenge was a free, online platform to help employees learn more about money matters and take important small steps to improve their financial well-being.

Participants earned points for the chance to win prizes (gift cards) by completing learning activities about budgeting, saving, borrowing, debt, financial consumer rights and responsibilities and other topics.



The platform was designed to facilitate the delivery of financial education in the workplace and be attractive to employers to implement in their organizations.

Employers of all sizes and industries could make use of it at no cost and with little effort as the platform offered turnkey promotional resources and a dashboard so that employers could measure how many employees were participating in the challenge.



After its first year, the pilot phase of the initiative has shown MoneyFit to be a successful model. Over 40 organizations joined the program, and \$30,000 in rewards were provided to participants. Participants have widely reported improvements in their general financial knowledge, their understanding of debt and their confidence in dealing with financial challenges. Compared to the baseline when they joined the MoneyFit Challenge, the number of participants who reported that they have now established at least one financial goal increased by 33%, and the number of participants who reported improved confidence related to achieving their financial goal increased by almost 50%.

III. Challenges and Lessons

The FCAC has been employing insights from the growing body of research on behavioural economics to shape their financial literacy initiatives, including the Carrot and the MoneyFit projects. While traditional financial literacy programs have focused mainly on disseminating knowledge, studies have shown that financial knowledge on its own it is not enough to lead participants to desirable behaviors.

One finding is that financial confidence is just as important as financial knowledge in driving behaviours. In this respect, experiential learning interventions are critical. These ‘learn-by-doing’ approaches, such as practicing making a budget or calculating mortgage payments, can provide individuals with the confidence they need to know that they can deploy this skill, and that it is not as difficult as they may have thought.

A related insight is that interventions would be beneficial to also correct situations where people have low financial knowledge mismatched with a high level of financial confidence. This ‘over-confidence’ can lead to poor financial planning and savings outcomes – an effect that has shown to be especially evident in retirees and near-retirees.

The way options are presented in financial decision-making can help people change their behaviour as well. ‘Nudge’ interventions are one technique in this regard. For example a budget template could be designed with an automatic default for savings (e.g. 5%, 10% or 20% of a person’s income). Research shows that if the default is perceived as reasonable, many people will use this as a guideline in making their own savings decisions. In fact, many individuals will keep the default savings even if they are able to easily change it or

might have chosen a smaller amount if there had not been any default. Likewise, social norming techniques can positively influence people's choices as well. For example, a budget template could help guide financial decision-making by providing information on the average amount that families or households spend on different items. Alternatively, an indicator could be included that shows the share of Canadians who are putting aside savings, either for their retirement or as an emergency fund.

CHILE

Financial inclusion is an evolving concept. Not so long ago, the objective was simply to provide access to basic instruments such as savings accounts and/or individual installment credit but, today, it is considered to involve a full range of instruments, including transactional accounts, savings accounts, debit and credit cards, investment instruments and insurance products. The access of individuals and businesses to useful financial products and services has, moreover, acquired importance in the world as an effective means of improving people's quality of life whilst also supporting economic growth and development. Accessible and widely used products, such as transactional accounts and payment instruments, satisfy basic financial needs and facilitate day-to-day life while more complex products, such as investment instruments, insurance and credit, help households and businesses to plan for their needs and protect themselves against unexpected risks or emergencies, contributing to the achievement of their medium and long-term goals.

The significant advances seen in the recent years in access to different financial products and in their use have transformed them into basic services for individuals and households. The evidence shows that vulnerable and disadvantaged groups take risk, safety and security into account in their financial practices just like sophisticated investors. Strategies for addressing consumers' needs should, therefore, aim to achieve continuous progress towards the provision of access to a complete range of products, including new savings, credit and insurance options, as key elements in the overall package of financial services. The implementation of these strategies should, moreover, consider that consumers' needs tend to change over time and are likely to be greater than suggested by a specific service's level of use of at any given point in time.

Financial inclusion: much more than a poverty-alleviation strategy

As well as being an effective way of improving the quality of life of people, especially those excluded from the formal financial system, the expansion of access to financial products and services has broader positive implications. Some of these refer to the economic and financial system itself since financial inclusion makes the payment system more efficient, increases productivity among MSMEs and makes a positive contribution to financial stability.

Financial inclusion is crucial for MSMEs. In their case, adequate access to financing on appropriate conditions can translate into productivity gains, higher sales and job creation. Some financial institutions provide training, advisory services and support networks that help MSMEs to narrow gaps in management standards and contacts as compared to larger or more formal enterprises. Access to credit also contributes to the formalization of MSMEs.

Moreover, financial inclusion has important implications for financial stability. Greater financial inclusion should increase the effectiveness of interest rates as a policy tool and may facilitate central banks' efforts to maintain price stability. Financial stability may also be affected by the resulting change in the composition of savers and borrowers and, therefore the composition of banks' funding and liquidity risks. One of the lessons of recent financial crises is that banks should rely more on small depositors than on large or very large ones.

Institutional ways to catalyze financial inclusion

Financial inclusion is now on the public agenda in most economies, although their priorities vary. In advanced economies, efforts often focus on providing access for certain segments, usually the extremely poor or specific groups such as immigrants. In emerging economies, on the other hand, a significant percentage of the population is still excluded so efforts to implement successful financial inclusion strategies should consider both the public and private sectors. Banking and non-banking institutions already play a role in intermediate phases of economic development but, as the financial sector develops, banks will become increasingly important.

The public agenda and strategies of most emerging economies have accelerated progress towards financial inclusion. In many cases, these strategies include the participation of regulators and the public sector as well as the private sector. Regulators and the public sector are likely to have responsibility for a broader range of financial inclusion topics and to have more resources and staff dedicated to these matters whereas the private sector's contribution is more likely to consist in taking advantage of specific opportunities to expand inclusion. This is the case, for example, of reforms to permit the adoption of new technologies or financial infrastructure which, by underpinning the introduction of low-cost services and lower-risk products, play a crucial role in expanding financial inclusion.

Regardless of how programs of access and usage of financial products are implemented, economies with a financial inclusion strategy or economies with a state or development bank need to have solid foundations and an adequate institutional framework. The role of the regulator is not only to ensure the financial system's security and stability. It also includes the prevention of bad commercial practices and the promotion of healthy competition and an efficient and effective financial system. In addition, regulation should be simple, flexible and proportional to risk-taking since over-regulation can result in serious limitations on financial inclusion. There is growing recognition that most barriers of access to financial services can be overcome by a well-designed regulatory framework. The fact that many regulatory authorities are not familiar with new delivery technologies can, for example, result in an ill-tailored regulatory framework that does not cover the material risks arising from these new technologies. Similarly, prudential norms may need to be adjusted in line with the risk profile and systemic importance of banks or micro-finance institutions.

Role of financial education and responsible financial inclusion

Financial inclusion should go hand-in-hand with financial education since increased access to financial services is not synonymous with improved financial health. People may make poor financial decisions that lead to over-borrowing or under-saving. Credit, although a very good instrument, can cause damage if poorly applied. For clients, financial education is, therefore, a fundamental complement to access. Financial literacy is not a matter of the mere provision of information about products and services and their cost. It needs to go much further than that. The implementation of financial literacy programs should promote behaviors that avoid over-indebtedness, foster awareness of the importance of savings versus

current consumption and boost confidence in new products and financial services. It is necessary to approach financial education with a strategy that is implemented across the board, by schools and universities as well as financial and regulatory institutions. Around the world, there are numerous examples of financial education programs for different age groups and levels of education that offer important lessons about their implementation and effectiveness. Recent research shows that many of these programs will fail if they are based on theoretical assumptions such as the idea that poor financial choices stem from a lack of knowledge or that better decisions will lead to better financial health. Programs also need to be easy to implement, tailored to individuals' needs and situations, timed to coincide with decisions and, for the participants, readily accessible and entertaining. They are also most effective when targeting those eager to learn, such as young people and those in early adulthood.

For banks and other intermediaries, it is crucial to ensure good business practices and transparency and, above all, to avoid excessive risk-taking. In the field of financial education policies, it is necessary to consider consumer protection in conjunction with the regulation of financial institutions and markets. Financial consumer protection can contribute to improved efficiency, transparency, competition and access to financial markets by reducing asymmetries of information and power between the providers and users of financial services. However, this implies the existence of a culture of responsibility promoted by financial and regulatory institutions. Where new consumers are not well protected or unable to take informed decisions about new financial services or where new products or institutions are not well monitored, the positive impacts of financial inclusion can be limited or even totally offset.

See appendixes: “Financial education initiatives using digital platforms” and “Consumer Protection”.

Financial inclusion and technological change

Technology is an important ally of financial inclusion. It has revolutionized electronic payment systems around the world. Mobile devices, in particular, have become an efficient channel in transactional systems. Technology has also reduced banks' transactional and operational costs, allowing them to pass these lower costs on to clients. Moreover, it facilitates the collection, storage and analysis of the data, which are the bedrock of measurement systems. This enables financial institutions to better understand and more accurately assess customers' needs and financial profile and, therefore, offer products and services more closely tailored to their demands. Similarly, technology provides more information for credit-scoring models, facilitating the incorporation of new segments of the population into the formal financial system through the development of relevant information about historically excluded groups such as women, immigrants, the rural population and young people.

Technology also makes it easier to monitor and measure the effectiveness and impact of financial inclusion programs. Indicators can be used to track the outcomes of key actions and their impact on target populations. This is particularly important for those institutions subject to accountability for the effectiveness and efficiency of their use of capital and resources. These performance/outcome indicators are, moreover, a powerful tool for communicating with the public, policymakers, academics and private sector stakeholders.

See appendixes: “Digital Toolkits for entrepreneurs” and “BancoEstado's mobile APP”.

Lessons learnt

Despite all the advances that have been achieved, financial inclusion remains a challenge worldwide. If the policy objective is to continuously increase access to financial products, one of the main lessons learned is that it is crucial to identify the principal barriers to their use from the very beginning. Only in this way can they be properly managed.

Ongoing progress in financial inclusion requires a sound and secure financial system with responsible and informed consumers. A weak financial system hampers the pursuit of financial inclusion. Success stories demonstrate the importance of a regulatory infrastructure that includes the design of products suited to users' needs, the regulation of non-formal financial providers, a flexible regulatory framework that permits the entry of new technologies and the implementation of financial education programs to promote responsible indebtedness and products' effective use. Wider access to credit may increase financial risks if it results from rapid credit growth, household over-indebtedness or the expansion of relatively unregulated parts of the financial system.

The Chilean experience

For many years, Chile showed only partial progress on financial inclusion. The only instruments with a mass reach were savings accounts and store credit cards. However, during the last ten years, remarkable progress has been achieved and is reflected in the strong growth of transactional or payment accounts and the debit cards associated with them. According to the Financial Market Commission¹⁸ (CMF), the number of debit cards increased 3x, from 7,411 thousands in December 2007 to 22,398 thousands in December 2018 or, in other words, by 202% (Figure 1). This puts Chile on a par with the average for the Organisation for Economic Co-operation and Development (OECD) (Figure 2).

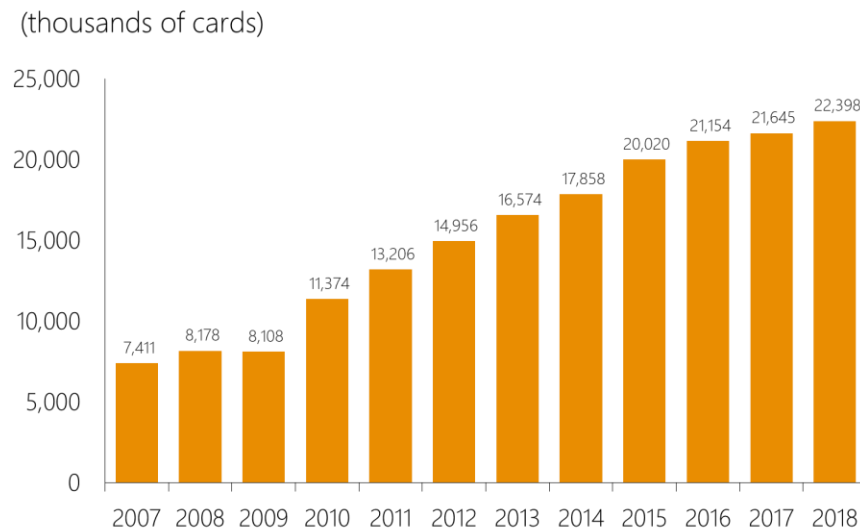
Factors behind this rapid progress

This progress has been underpinned by the soundness of Chile's financial system. In the last 25 years, despite episodes that have affected individual institutions, there has been no systemic crisis. In line with this, the system has enjoyed the confidence of the public.

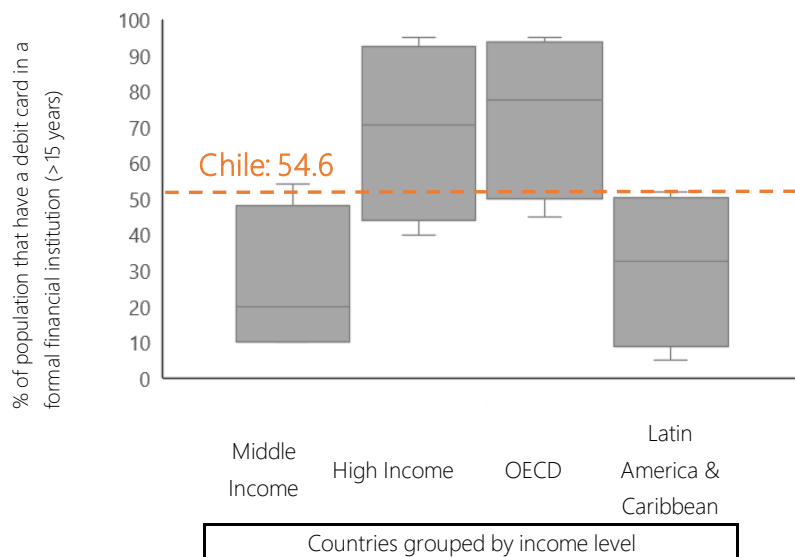
A second important factor is the role played by BancoEstado. Without belittling the contribution made by private banks, it has provided remarkable leadership, not only in terms of financial inclusion but also through its decision to innovate and push ahead with the implementation of an efficient network of 25,400 bank correspondences throughout Chile as well as 413 full branch offices, 107 small-type branch offices and 2,446 ATMs as of December 2018.

BancoEstado is a state bank but competes with other banks under the same rules. With its long history in the market and its hallmark tradition of providing mass services, it was well equipped to lead a process of this nature. In the past, its services consisted principally in savings accounts but it has always focused on serving the greater part of Chile's population.

¹⁸ The Financial Market Commission (CMF) has as its main objectives to safeguard the proper functioning, development and stability of the financial market; facilitating the participation of market agents and promoting the care of public faith; as well as safeguarding that supervised persons or entities, from their initiation until the conclusion of their winding-up, comply with laws, regulations, statutes, and other provisions that regulate them.

Figure 1. Evolution of debit cards in Chile

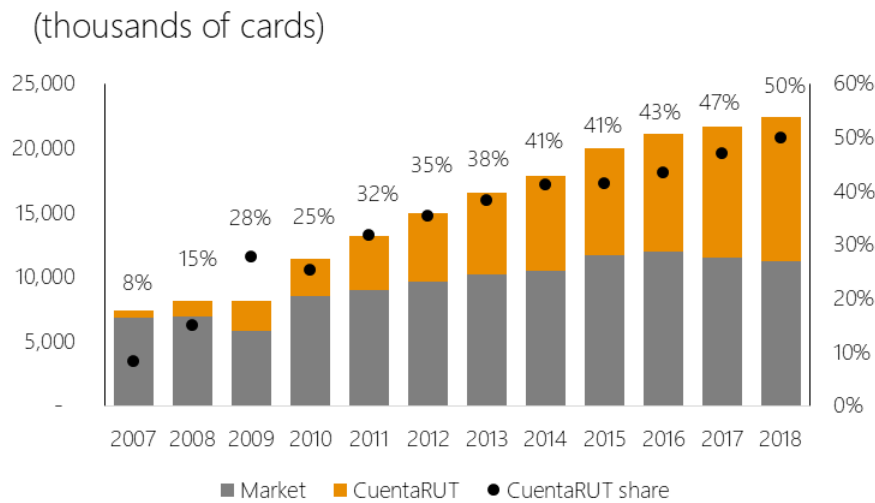
Source: Financial Market Commission (CMF)

Figure 2. Percentage of over-15s with at least one debit card from a formal financial institution

Source: Financial Market Commission (CMF)

It has offered a CuentaRUT account to everyone with a taxpayer number (RUT), which is also used as the number of the account, hence its name. These accounts, which are similar to a basic transactional account, are being used as a tool to promote financial inclusion, often serving as an easy gateway to other financial services and facilitating transfers to and from the government or other banks as well as retail payments or transactions at ATMs and with PSPs. Currently, some 10 million Chileans have a CuentaRUT, up from 6 million with an active CuentaRUT at the end of 2015. As of end-2016, 46% of total debit cards in Chile corresponded to a CuentaRUT (Figure 3).

Figure 3. Evolution of CuentaRUT accounts over total debit cards

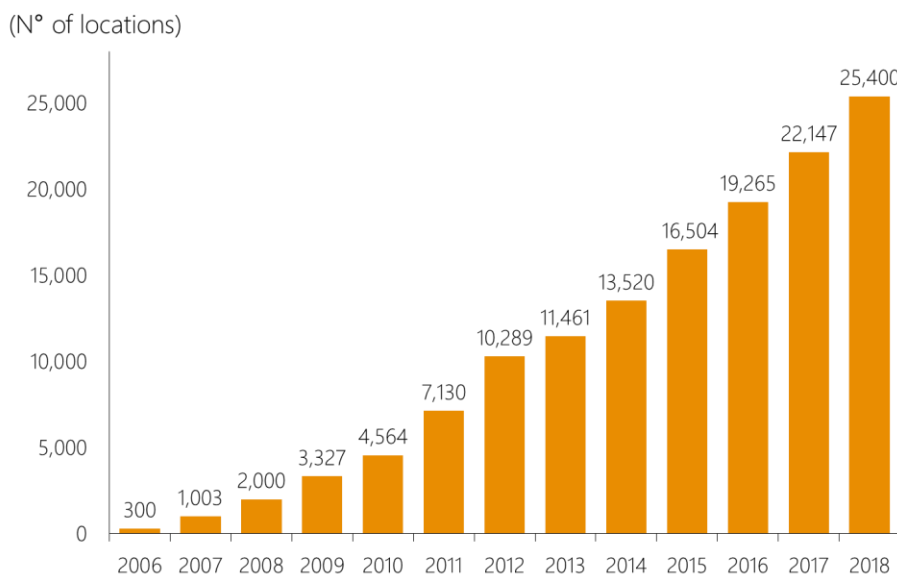


Sources: Financial Market Commission (CMF) and BancoEstado

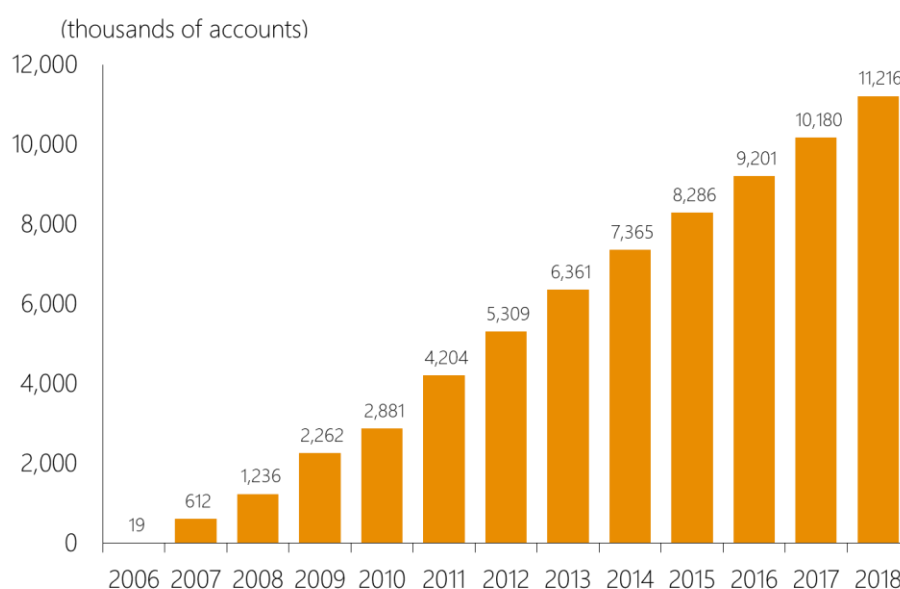
Universal access to transactional accounts has been accompanied by infrastructure that promotes their use, an area in which BancoEstado has made a significant contribution in terms of coverage. In this, a key role has been played by its CajaVecina network, Chile’s largest network of retailers acting as correspondents. It currently comprises over 25,400 points of attention (Figure 4) and provides transactional services that include money transfers, deposits, the transfer of funds between accounts and payments of various kinds. This model, which requires only a POS at the point of attention, has proved very successful, due in part to its low costs. At the same time, it provides a boost to the activity of affiliated retailers and represents important progress for a product that seeks to measure its effectiveness.

See appendix: “Compraqui”.

Figure 4. Evolution of CajaVecina points of service



Source: BancoEstado

Figure 5. Evolution of CuentaRut accounts

Source: BancoEstado

However, it does not follow from Chile's experience that the presence of a state bank is a necessary condition for progress in financial inclusion. BancoEstado has played a key role but the process could equally have been led by the private sector in cooperation with the government.

A number of other factors can also be identified as having contributed to Chile's progress, including principally:

Multiple channels. Financial inclusion is facilitated by the provision of services through multiple channels, including some that are digital, such as internet and mobile telephony, and others that are more traditional, such as branches, ATMs and correspondent networks. These are mutually reinforcing and can respond adequately to the needs of different segments of the population, with differing levels of progress in terms of access to services and the effective use of financial instruments.

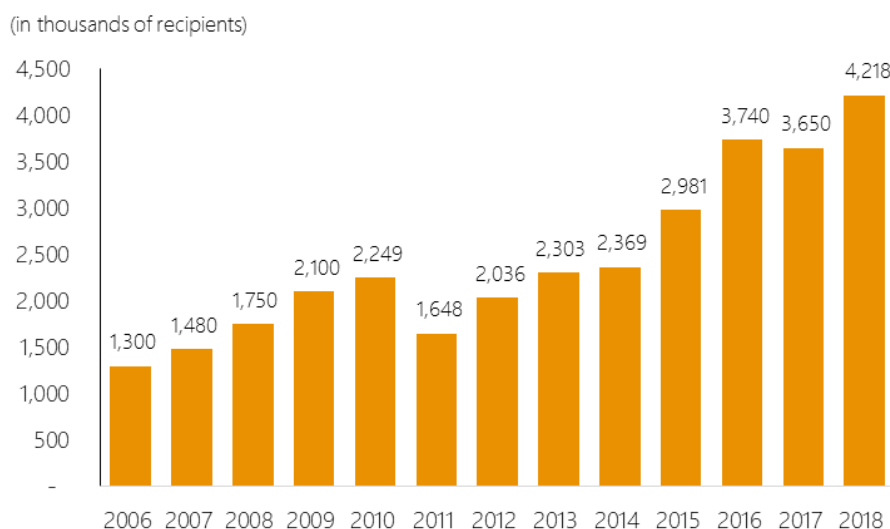
Proportionate regulation. This is an effective way to reduce access barriers in the form of requirements for the opening of transactional accounts, with careful prioritization of key risks. In Chile, more flexible requirements for non-checking accounts were introduced while those for current accounts were left unchanged.

Adjustment of fees on the simplest accounts to customers' needs. The fixed charges, independent of movements, traditionally associated with current accounts were not well suited to the new transactional accounts and were replaced by a charge based on movements. Charges are always a matter of concern to customers and it is important that their rationale is explained and that they are applied with great transparency.

Promotion of use of transactional accounts through online payment of state subsidies and benefits. In 2016, more than 3 million people received benefits in their transactional accounts and there is also pressure from the private sector for employees to have an account for the direct and automatic payment of their wages.

ID systems. It was thanks to Chile's ID system that BancoEstado was able to offer a CuentaRUT to every citizen born in Chile and immigrants with a taxpayer number.

Figure 6. Social benefits and pensions paid by BancoEstado



Source: BancoEstado

Chile's Challenges

Despite the progress achieved in recent years, Chile still, however, faces important challenges and pending tasks as regards financial inclusion.

Digital transformation

By lowering the cost of supplying products, digital financial inclusion makes it easier to address the needs of lower income-segments whilst also ensuring that the new business models are profitable for the financial institutions adopting them. Demand for financial products and services using smartphones is also growing among young people and in emerging sectors of the population. However, if effective financial inclusion across all the population is to be achieved, the rapid advance of technology must be matched by ongoing progress in the digital transformation of processes and, for example, the use of data analysis as a tool through which to gain a better understanding of customers' needs.

Financial education

Financial education should seek to promote financially responsible behavior across all segments of the population and, since this is a task that begins at school and continues through university, it should be addressed jointly by both the educational and financial authorities. The most vulnerable population - women, the rural population and those living in remote parts of Chile and different minority groups, who have historically been excluded from the formal financial sector - generally have greater difficulty in understanding innovative products and services and their rights and responsibilities.

Remittances for immigrants through banking institutions

An estimated 490,000 immigrants live in Chile and tend to use service providers that are not banks, making a supervisory and regulatory approach more difficult. These unregulated service providers may also pose risks related to the identification and monitoring of money laundering and the financing of terrorism. Remittances are, however, a type of recurrent payment that can favor financial inclusion since the senders seldom have a transactional

account to help them manage their daily financial affairs, despite having a reasonably constant inflow of cash.

Implementation of Basel III and financial inclusion

The global capital and liquidity standards set by Basel II and III have significantly increased the required amount and quality of both the capital and liquid assets held by banks, reducing the incentives for them to provide riskier loans, particularly to retail SMEs and low-income households. In order to counterbalance the potential negative impact on financial inclusion, these exposures have been granted preferential risk weights (75% for retail SMEs and 35% for residential mortgages) and the guarantees on them provided by the state or government agencies are fully recognized as risk mitigators. European regulators have, moreover, set the supporting factor - the ratio between the Basel II requirement (8%) and the final Basel III requirement (10.5%) - to reduce the relative cost of capital for SME exposures. In my view, Chilean regulators should implement these international standards and replicate this preferential treatment of SME and retail exposures so as to continue to promote financial inclusion, ensure a level playing field for Chile's financial institutions and support economic and job growth.

Appendix

Financial education initiatives using digital platforms

Crece Mujer

This program aims to promote access to the financial system. Strengthen skills related to digital sales platforms and generate networks. With a reach of 600,000 people, it has 3.6 million visits on the web, and 1 million visits in the Financial Education Notes section. More than 12,000 women have been trained throughout Chile.

CreceMujer Program is an angular part of our action to promote and facilitate access to financial and non-financial services for micro and small business women from all over Chile, contributing since 2015 to the growth of their businesses and their economic empowerment. The initiative offers a wide range of opportunities for development, training and financial education, which we carry out through partnerships with institutions such as the Ministry of Women and Gender Equity, Women of the Pacific, Women's Community and Women Entrepreneurs, among others. In addition, we offer various information and associative tools in our web platform, where women can link with other entrepreneurs and generate collaboration networks for the creation and development of businesses. Here we present the main advances of the program in 2018: 611,071 female entrepreneurs of CreceMujer, with a growth of 71.6% compared to the previous year.

The platform and web community of the program registered more than 1.5 million visits, where there are articles and training videos on business management, employability, labor development, empowerment and leadership, financial education, technology and legal / tax issues, as well as of content on benefits and services of the State.

By 2018, there were 254,310 women from Micro and Small Business segments participating in this program.

During the implementation of the program between 2017 and 2018, we have held four events with the aim of promoting spaces for the commercialization of women, supporting 112 female entrepreneurs in these two years.

The "CreceMujer" Program of BancoEstado, which aims to promote and facilitate access to financial and non-financial services to female entrepreneurs, provides the most relevant financial education content for those who are in different stages of maturity with their entrepreneurship, or even those who at any time of their life plan to start it. The contents are displayed through articles in text, built in consultation with internal experts of the bank, as well as instructional videos like tutorials or infographics that address different topics of interest to women entrepreneurs. This program, which began in 2015 in conjunction with the Ministry of Women and Gender Equity, during 2018 had more than 700 thousand visits to its financial education contents.

En Fácil y en Chileno

The platform www.enfacilyenchileno.cl of BancoEstado is a website that, through an agile, close language and using the OECD guidelines, addresses the topics such as how to organize a family budget or how to strengthen the habit of saving and avoid over-indebtedness, among others. It aims to inform our users about the best ways to manage their money and improve their quality of life. The contents of financial education are displayed through 25 tutorial videos in Spanish with subtitles and sign language, in addition to being translated into Mapudungun (language spoken by the Mapuche, indigenous inhabitants of south central Chile) and Creole (language spoken by Haitian).

It also contains a personal budget simulator and a game. This platform, available since 2014, already has more than 1,559,565 visits and its videos also available on its YouTube channel record a history of 3,703,999 views. Meanwhile, during 2018 we registered 197,310 visits to the website and 86,212 accesses from our Facebook page.

The top 5 sections, in number of visits, are: financial crisis; budget; indebtedness and consumption; buy a good; and savings and investment.

Emprende BancoEstado

It seeks to support and empower the entrepreneurs of Chile, engaging into a strategic relationship with them. Skills related to guidance and advice on BancoEstado's products are developed, business consultancy at all stages of its life cycle, face-to-face service at BancoEstado branches, and, finally, centralized information for clients regarding public incentives programs for entrepreneurship.

To date it has 5,383 registered users and 20,069 web visits. The most visited topics on the web are: 1) how to get funding; and 2) how to order my finances.

Digital Toolkits for entrepreneurs

BancoEstado through its SME oriented web platform "Empresarios en Red", promotes a Digital toolkit to help entrepreneurs in managing their business. These include:

CONTABLE

Simple, friendly and easy to use Online Accounting Software, which automates the finances of the company through WhatsApp. *CONTABLE* is the first 100% online accounting software, tailored to small business's needs. You will have the benefits of the new VAT (value added tax) regulations, electronic invoice, and payment of social security contributions through the internet, among others. Easy, without ties and at the best price.

VESSI

Accounting management platform that facilitates the issuance of invoices. *VESSI* is the first electronic ticketing solution that is issued from a device as simple as a calculator, where you will register the sale and get an electronic ticket.

ORGANIZAME

Cash flow management platform for small businesses. *ORGANIZAME*, automates and orders the finances of your company through a simple, friendly and easy to use Online Software.

ZOCO

Platform that helps to develop a virtual store through the MercadoLibre platform, speeding up the promotion of products. Since 2018 it is part of the benefits within the small business digital kit with 2 free months for BancoEstado clients.

BEBETTER HOSTELS

Tourism digitization services, such as website and booking software. Automate and manage the finances of your company through a simple, friendly and easy to use Online Software.

BSALE

Manage your sales with a friendly system and with the best support.

- Real time sales reporting
- Automatic stock control
- Manages online and store sales in an integrated manner.

INSTACROPS

INSTACROPS by means of an artificial intelligence software, delivers online and predictive information to produce more with less. The model is fed using devices that are installed in the agricultural fields and that send information through a mobile application.

Compraqui

Innovative business model “micro-acquirement” (*micro-adquirencia*) which allows to include the smallest shops and services in the world of sales with cards, without the need of having a minimum level of sales or number of transactions.

Were included into this platform the “non-established business (informal)” (*negocios itinerantes*) because it does not need a POS connected to the power network. Only needs a phone or tablet with an internet connection to be able to work, allowing to reach the unattended business.

Because of the worldwide trend in reducing the use of cash, this technology promotes financial inclusion in this field, for the non-covered sectors of Chile.

In Chile, there are more than 20 million debit accounts, more than 600 thousand small businesses and only 150 thousand were served by the only existing “acquirement network”, (*red de adquirencia*) excluding 75% of the stores. This network was concentrated mainly in large urban areas and large businesses, with a reduced participation in SMEs based in small and distant cities in Chile.

Figures Compraqui

N° POS	36.622
N° Counties (comunas)	328
N° TRX	4.691.496
N° TRX by POS	128
Sales MM\$	50.588
Mean sales by POS M\$	1.381
Mean sale by TRX (\$)	10.783

N° Compraqui by county

Regions	N° counties	N° POS	Sales	TRX	Mean sale by TRX (\$)
North	39	12%	11%	10%	12.121
Centre	123	62%	67%	67%	10.694
South	166	26%	22%	22%	10.478
Total	328	100%	100%	100%	10.783

Consumer Protection

Among others, we highlight:

Security Measures in Electronic Funds Transfers*Wholesale Web Channel*

- **Captcha.** Implemented internally for single-agents and transfers to other banks and BancoEstado.
- **Third Key.** The Third Key will be sent via email to customers to validate and authorize financial transactions.
- **Soft token.** Authorization key, unique and non-transferable that provides a dynamic key.

Retail Web Channel

- **Secure Data.** Contactability database implemented for validation of financial operations.
- **Coordinate Cards.** Transaction authorization mechanism.
- **Third Key.** Sent by text message to the contact. It is used when unusual movements are detected or when new recipients are registered.
- **Pre-registration of Recipients (New TEF).** Any new transfer must have its pre-registered recipients.
- **Bepass.** Is used to make transfers to customers, through the Mobile APP of the Bank.

Security Measures in APP BancoEstado*Enrollment Model*

- Validations of Rut, restrictive measures and have a 24 Hrs contract.
- Internet key or ATM key.
- Validation of code sent to Mail or Coordinate Cards.
- Create Password 4 digits App.

Security Model

- Verification Scenario

- \$ 50,000 daily limit.
- Only TEF to registered accounts.
- Regime scenario
- Payments and transfers limits according to product.

Other Security Measures

- Double authentication before updating email.
- Soft-token downloaded into smartphone (unique seed for identity validation)
- Key + soft-token for transactions using the app.
- Locking the account in case of equipment losses or fraudulent transactions.
- Session expiration time.

BancoEstado's mobile APP

BancoEstado's mobile app -which also includes PagoRUT- had 522 million transactions in 2018. Last year an innovative service was included at the Digital Banking, which allowed clients to open savings accounts through the mobile APP, reaching 65 thousand Account openings in 2018. The New APP aims to reach 1 million users by the end of 2019. Digital services include, among others:

- Allow to check the balance of your account at no cost and as many times as you want
- Make transfers easily
- Pay your loans at BancoEstado
- Pay your utility bills (water, electricity, gas, etc.)
- Send money with PagoRUT to any client BancoEstado
- Open an online Savings account
- Put money into your beep!

CuentaRut

There are 13 million, of which 1.6 million include chip, and allow international purchases. Of these, 713,847 have been issued to migrants in 2018. In order to promote financial inclusion, during 2018, CuentaRUT provided its information and their main after-sales services in the Mapudungun language.

In addition to the above, there is a marked trend towards digitalization in the channels through which CuentaRUT is used. In 2010, ServiEstado and ATM were the main means to conduct credit transactions, while in 2018, 90% of this type of transactions are made through the Internet. Regarding withdrawals, cashless transactions, ie RedCompra and the Internet, represent 70% in 2018, displacing ATM and withdrawals at bank office, the main channels in 2010.

HONG KONG, CHINA

Introduction

1. As an international metropolis and the leading financial centre in Asia, Hong Kong, China is known to have a highly facilitating, efficient and inclusive financial industry which

provides easy and ready access to a full spectrum of financial services. Financial services are as much a part of daily life as the basic necessities of food, clothing, housing and transport for every resident of Hong Kong, China.

2. With the emergence of Financial Technologies (“Fintech”), the organic integration of finance and technology has brought about innovative solutions to the financial industry and motivated incumbent financial institutions to enhance business operations, thereby raising the overall quality and inclusiveness of our financial services. Indeed, the Government of Hong Kong, China has been working actively with various stakeholders, including financial regulators and industry players, to facilitate the growth of our local Fintech ecosystem in order to enhance financial inclusion.

Financial Inclusion in Hong Kong, China

3. The financial services sector is a major economic pillar of Hong Kong, China, and the banking sector is often the gateway to the rest of the financial services. Banking services in Hong Kong, China are highly accessible. In terms of figures, retail banks in Hong Kong, China have over 1 110 physical branches, over 3 300 automated teller machines and over 2 500 other self-service machines, such as cash/ cheque deposit machines and passbook update machines.

4. To further enhance accessibility of banking services, banks have set up mobile branches to serve customers in over 20 public housing estates, video teller machines¹⁹, as well as simplified cash withdrawal service for the elderly without purchase at over 300 convenience stores and all post offices. Banks have also deployed service ambassadors at bank branches to assist the elderly and persons with disabilities when conducting banking transactions.

5. In addition, a number of retail banks have abolished the minimum balance requirements and the related low balance or dormant account fees on bank accounts to further enhance accessibility of basic account services by the general public.

6. While Hong Kong, China has a highly inclusive banking sector, we are mindful that there is still room for improvement in terms of opening bank accounts by certain businesses, and banking access by small and medium-sized enterprises (“SMEs”).

Enhancing Financial Inclusiveness

7. To enhance Hong Kong, China’s financial inclusiveness, the Government has implemented an array of policies and Fintech initiatives to improve financial inclusion.

Virtual Banking

¹⁹ These machines provide interactive banking services to customers and complement the services of traditional automated teller machines (“ATMs”) by providing other services like time deposit placement, foreign currency exchange, exchange rate enquiries, etc.

8. In 2019, the Hong Kong Monetary Authority (“HKMA”) granted virtual bank licences²⁰ to eight institutions of different backgrounds, including banks, non-bank financial institutions and technology companies, making Hong Kong, China one of the pioneers in Asia to endorse a new form of banking service. Virtual banks leverage on Fintech to facilitate access to bank accounts and credits, thereby promoting financial inclusion.

9. Specifically, virtual banks can lower the incremental cost of customer acquisition, which would translate into lower cost for customers to open and maintain bank accounts. In Hong Kong, China, virtual banks are required not to impose any minimum account balance requirement or low-balance fee on their customers. Virtual banks could on-board individual customers remotely through electronic channels, such as mobile applications or internet. The move to electronic channels would improve efficiency and reduce costs to customers like travelling cost and time to visit physical bank branches. Virtual banks could also utilise big data and behavioural assessment for better credit assessment, which would ease the burden of providing financial track records and proofs, and thus facilitate provision of loans to individuals and SMEs.

Faster Payment System (“FPS”)

10. The launch of the FPS in September 2018 signifies that the payment landscape in Hong Kong, China has entered a new era. The FPS supports multi-currency instant payments on a round-the-clock basis, with full connectivity between banks and stored value facility operators (“SVFs”). The public can easily transfer funds 24/7 across different banks or SVFs with the use of mobile phone number or email address as account proxies. The FPS facilitates innovation, brings more efficient and user-friendly services to the public, and promotes the adoption of e-payment in Hong Kong, China.

11. A total of 22 banks (including most retail banks) and 10 SVFs in Hong Kong, China have participated in the system. As of 30 June 2019, FPS had recorded 3 million registrations and processed 19 million transactions involving an aggregate amount of HKD 373 billion and RMB 10 billion. The volume of transactions going through the FPS has been increasing steadily. Some of the departments of the Government of Hong Kong, China have started using the FPS to collect bill payments with the use of QR code.

Distributed Ledger Technology (“DLT”) Platform

12. Riding on the earlier success of the trade finance proof-of-concept work led by the HKMA, seven banks in Hong Kong, China decided to commercialise the prototype into production with a view to digitising paper-based documents and automating the trade finance process to reduce errors and risks of fraud. Under the facilitation of the HKMA, eTradeConnect, a blockchain-based trade finance platform fully funded by a consortium of 12 major banks in Hong Kong, China went live in September 2018 and was officially launched in October 2018. The development of eTradeConnect has entered the next phase.

13. The development of such DLT trade finance platforms can achieve: (i) improvements in financial inclusion in terms of access to trade finance by the usually underserved entities (e.g. micro, small and medium-sized enterprises) through enhanced credibility of trade

²⁰ A “virtual bank” is defined as a bank which primarily delivers retail banking services through the internet or other forms of electronic channels instead of physical branches.

processes; (ii) wider adoption of digital trade finance platforms, leveraging DLT, to enhance efficiency and transparency of trade processes and hence open up new horizons for global trade finance at lower risk to banks, therefore enhancing banking/financial stability and (iii) coordinated development of digital trade finance platforms to enhance their interoperability so as to avoid market fragmentation and maximise the benefits of digitalising trade processes.

Banking Access by SMEs

14. SMEs make up the vast majority of enterprises in Hong Kong, China and employ half of the private sector workforce. Therefore, enhancing financial inclusion for SMEs can greatly benefit our economy as a whole. With the support of the HKMA, some banks have launched a new tier of bank accounts for business customers, namely Simple Bank Accounts (“SBAs”) that aim to enhance customer experience and provide an additional option for business customers who require only basic banking services. This is particularly convenient for business customers who cannot readily furnish certain information and documents required for opening traditional accounts and yet do not require the full range of services at the initial stage.

15. Under the SME Loan Guarantee Scheme (“SGS”) launched in 2001, the Government acts as the guarantor of individual SMEs to help them secure loans for business installations and equipment and working capital, with 50% guarantee of the approved loan. As at end-August 2019, over 90% of the applications for a cumulative loan amount of about HKD 55 billion have been approved. The Government has also launched the SME Financing Guarantee Scheme (“SFGS”) to help SMEs access bank credit by providing up to 80% guarantee to SMEs loan. SFGS has achieved great success. Since its inception in 2011, HKD 67 billion of loans have been approved as of end-June 2019, with over 9 000 enterprises benefitting from the scheme. The number of approved SFGS claims increased by 51% year-on-year in the first five months of 2019.

Challenges

16. While Fintech offers a new mode of delivery and customer experience, these technological innovations also bring along new risks to consumers and the financial services sectors, including technology related risks, customer data privacy and money laundering and terrorist financing (“ML/TF”) risks.

17. The HKMA adopts a risk-based and technology-neutral approach to banking supervision. Accordingly, virtual banks are subject to the same set of supervisory requirements applicable to traditional banks. This includes requirements to ensure banks have an effective risk management framework to identify, manage and control the risks they are exposed to.

18. Specifically, to counter technology risks, the HKMA requires virtual banks’ security and technology-related controls and arrangements to be “fit for purpose” and regularly reviewed to ensure they remain appropriate having regard to the continuing developments in technology.

19. In terms of customer protection, virtual banks should, among other things, comply with the Code of Banking Practice, adhere to principles in the Treat Customers Fairly

Charter, and put in place adequate procedures to handle and protect customer data in accordance with the Personal Data (Privacy) Ordinance in Hong Kong, China. In addition, to contain ML/TF risks, the HKMA expects virtual banks to take into account the specific risks which arise from their digital-based business models, such as impersonation risk and ensure that controls are effective in mitigating these risks.

20. To help virtual banks manage the risks associated with the use of innovative technologies, the HKMA encourages them to make use of the Fintech Supervisory Sandbox, which allows banks and their partnering technology firms to conduct pilot trials of Fintech initiatives in a controlled environment without the need to achieve full compliance with the HKMA's supervisory requirements.

Conclusion

21. Financial inclusion requires concerted efforts of the regulatory authorities, the financial services sectors and cooperation of the customers. The Government of Hong Kong, China will continue to facilitate the development of Fintech in order to ensure adequate access by the general public to financial services, and at the same time, put in place sufficient safeguards in order to enhance consumer protection and financial inclusion as a whole.

JAPAN

1. Introduction

Briefly explain the economy's socioeconomic context including the financial system and related infrastructure for implementation of financial inclusion.

- Japan faces changes in the industrial structure, including a possibility that sectoral barriers blurring as a result of changes in the employment environment, such as declining labor force due to aging population and declining birth rate, and innovation caused by progress of digitalization, such as the use of AI and big data. In order for the Japanese economy to continue to grow in the medium to long term, it is crucial to respond to these structural changes.
- While paying attention to consumer protection, the JFSA is collaborating with relevant ministries, agencies and industries to promote FinTech, which contributes to enhance the convenience of financial service users. We consider that these efforts will lead to advancing financial inclusion utilizing FinTech.

2. Barriers and Challenges

Briefly describe the barriers and challenges to promoting the use of financial technology to promoting financial inclusion.

- See Response III.

3. Approaches in Addressing Barriers and Challenges

Describe approaches undertaken or followed to address barriers and challenges to:

1. Developing and promoting the usage of financial technology;
 2. Applying financial technology to facilitate access to and usage of financial products and services;
 3. Consumer protection issues arising from the usage of financial technology ; and
 4. Financial education to keep pace with rapid changes in financial technology.
- As described in Answer I, the JFSA is working on promoting FinTech that contributes improvement of the convenience for financial service users, while paying attention to consumer protection. Regarding this question, we recognize following challenges for instance.

(Response to 1.2.)

- Progress in IT has dramatically increased and improved the accumulation and utilization of information both in quantity and quality. As a result, there are growing technological possibilities in providing customized financial services that meet the needs of individual users, and in utilizing information obtained through financial services for other areas. For this reason, the accumulation and utilization of information is indispensable for advancing the convenience of users in financial services and, consequently, for improving the productivity of society and economy as a whole. Therefore we need to actively promote the accumulation and utilization of information in the financial sector.
- While possibility of unprecedented challenges, enabled by progress in IT, is increasing, it is assumed that those challengers would face various problems, such as applicability of regulation, etc. to such challenges is unobvious. It is thus important to promote innovative challenges by using various sandbox platforms
- As various business models for enhancing user convenience and corporate productivity by using open architecture mechanisms have become feasible, it is important to foster collaboration with various players, such as financial institutions and FinTech companies through open API and other means, and to promote innovation in services and business models that they offer.

(Response to 3.)

- The utilization of information accompanied by the progress of IT enables financial services to enhance user convenience and productivity. On the other hand, privacy of customers, anonymity and credibility of customer information (prevention of spoofing and tampering, etc.) are also important. Thus, it is necessary to maintain customer protection without compromising user's convenience, including ensuring the appropriate use of information.

(Response to 4.)

- The accelerating digitalization develops utilization of information and make financial services more accessible. Thus it is necessary to improve literacy in the field of information and finance, including what kind of services are available with development of FinTech, and how data such as personal information, purchasing history, etc. are used for promotion of financial and other products and services.
- In response to these challenges, the following measures are being implemented in Japan based on the " Financial Services Policy: Assessments and Strategic Priorities 2018 " formulated by the FSA.

(Response to 1.2.)

- To improve environment for various players to properly utilize information; (1) improve the environment for information sharing (promotion of sophisticated financial payments and open APIs), (2) consider regulatory aspects (function-based, cross-sectoral financial regulations), and (3) organize dialogues with FIs on strategic IT utilization as well as IT governance.
- Establish “FinTech Innovation Hub” and meet with 100 FIs and new players to understand trends regarding FinTech, and Encourage companies to use sandbox tools such as FinTech PoC Hub and FinTech Support Desk.
- Encourage collaborations between existing FIs and FinTech startups by promoting Open API .

(Response to 3.)

- Besides promoting digitalization in terms of customer identification, (1) ensure anonymity of customers in the use and application of their information; (2) protect personal data including ensuring the credibility of customer data; and (3) promote initiatives toward customer protection with new technologies such as blockchain technology.

(Response to 4.)

- Promote improvement of information/financial literacy in society through measures such as enriching text and know-hows, to see what kind of financial services are available to customers and how their personal information is utilized and applied in FIs’ solicitation of financial/non-financial products and services.

4. Impact

What were the impacts of the approaches and how did they assist in overcoming the barriers and challenges?

- We believe that the above initiatives will contribute to the promotion of financial inclusion using FinTech by providing more convenient financial services to more users while caring about consumer protection.

5. Challenges and Lessons

What challenges did you encounter in the approaches and what steps did your economy take to manage these challenges? What lessons were learnt? How can regional cooperation contribute to addressing these challenges?

- Although the above measures are intended to improve the convenience of financial services users, they need to be promoted with paying attention to the balance between user protection and cooperation, collaborating with relevant ministries, agencies and industry.
- In international discussions, including APEC, the sharing of initiatives that contribute to financial inclusion through the use of FinTech will contribute to the smooth promotion of efforts by APEC economies, including Japan.

PAPUA NEW GUINEA

1. Introduction

Financial Inclusion in Papua New Guinea (PNG) is driven by Government Policy and a special roadmap in its Financial Inclusion Strategy. The key of this Strategy is Government is in partnership with all its key stakeholders, including the private sector. The Strategy outlines specific targets to achieve within a specified time frame.

The Policy and Strategy support the commitments of the Maya Declaration through an international commitment PNG made through the Alliance for Inclusion (AFI) in 2013. The case studies presented below are examples of private sector innovations that contribute to resolving financial inclusion issues and challenges, through collaboration and partnership arrangements.

2. Case Studies

The introduction of the micro-banking initiatives into PNG's financial sector in 2006 has created financial innovations and fin-tech that resulted in specific initiatives tailored to resolving some of the financial inclusion barriers and challenges. The following three case studies depict the impacts of these initiatives, using market-based private sector innovative solutions to the financial inclusion barriers and challenges in PNG.

Case Study 1: MiBank's MiCash Mobile Wallet

Nationwide Microbank Limited now trading as MiBank is a microfinance bank and a leading innovator in microfinance including the use of digital financial services to reach out to those people at the bottom of the economic pyramid, often referring to their products as mobile centric. In 2017, MiBank announced that the MiCash Mobile wallet, which remains the core product offering for its transaction banking, had by the end of 2016 made more than K126 million in value, processed through MiCash Mobile Wallets from more than 1.2 million transactions. During 2016 teachers began to receive salaries paid through the wallet; onion farmers received payments from buyers and towards the end of 2016, people in remote villages began to acquire solar power kits and use the wallet to 'Pay as you Go' solar. There are a number of key initiatives in place to grow the use of the MiCash to enhance financial inclusion, create mobile money ecosystems and increase scale.

Case Study 2: Pay-As-You-Go (PAYG) Solar Energy Kit

Need

It is felt that customers will adopt formal financial services if the solution offered to them solves a concrete and everyday problem and is easy to use, in this case by providing affordable, efficient electricity. The vast majority (82%) of the PNG population is not connected to the electricity grid and struggle with access to power sources. In 2014, a World Bank Group (IFC) study estimated that there are more than 1.3 million off-grid households do not use solar power, with only 2% of PNG households are using solar power.

Solution

MiBank introduced a 'pay-as-you-go' (PAYG) solar energy kit loan at four pilot sites. MiBank upgraded its payment processing systems capability so as to handle payments for solar power, and assist in strengthening its agent training and financial education

programme in the pilot areas. This initiative is an innovation for the PNG market and has the potential to reach 100,000 rural households within a three-year period. This solution has significant potential to increase the quality of life for a large number of people; women and children in particular. The solar installations will provide lighting that is superior and safer than the current kerosene option. Besides enabling rural Papua New Guineans to access electricity in a convenient, cost effective-way, it is estimated that the project will have the potential to introduce 100,000 unbanked adults into the formal financial sector, boost their level of financial literacy and give them opportunities to access additional financial products.

Methodology

This project is to test a new concept in PNG. The product is micro-leasing, as households will subscribe to obtain a solar energy kit and will pay off loans after 2 years. After that time they will own their solar kit and receive free electricity. MiBank will provide all solar energy customers with MiCash mobile wallets that are linked bank accounts. MiCash wallets will enable customers to buy goods and services, process bill payments, obtain air-time top up, send money transfers, do balance checks, and deposit or withdraw cash at MiBank branches or MiCash agents. As solar energy customers will need to use their MiCash wallets to purchase vouchers for their solar kits, usage of MiCash wallets is driven by necessity, leading to familiarity with the MiCash interface and a smooth transition to usage of the wider suite of MiCash financial services.

Case Study 3: Banking with Thumbprint - Women's Microbank Ltd

Distance to the nearest bank and the lack of formal identification has been a major barrier to accessing financial services in PNG. In 2018, the Women's Microbank Ltd (WMBL), a microfinance bank, and the United Nations' Pacific Financial Inclusion Programme (PFIP) embarked on a partnership to develop a new innovative solution that could help remove these banking barriers not just in PNG but for the whole Pacific region. Over the duration of the pilot, WMBL and PFIP developed a biometric enabled system that makes financial services more accessible for rural communities, especially for women who are WMBL's main customers.

The MAPs are kiosk-type structures established at safe locations in market places, manned by two WMBL staff. Each MAP is equipped with tablet-based biometric technology that allows customers to transact with WMBL by just using their fingerprint. This makes it much easier for customers as very often bank cards get lost or stolen and many people tend to forget their PIN. For the pilot, the MAPs were initially set up in Port Moresby, Kerema (Gulf Province), Madang (Madang Province), Maprik (East Sepik) and Goroka (Eastern Highlands Province).

When opening a new account at the MAP, customers will have to complete the necessary identification requirements (KYC) set forth by the Bank of Papua New Guinea (Central Bank) and will have their fingerprint impressions taken on a biometric reader. Once this is done, the customer will be able to perform basic transactions, such as savings, deposits, withdrawals and checking their balance conveniently, literally at the touch of their fingertips. After the pilot phase, WMBL intends to rapidly replicate the MAPs in other parts of the economy, helping to bring easy to use financial services closer to rural people in PNG, and particularly women.

Biometric solutions hold significant promise and are likely to play a very important role in the future of identity verification and authentication in banking services in PNG. What is more important is that the customer experience of solutions, such as the one used by WMBL, is far more superior to any of the Pacific banks are currently offering. Using biometrics removes the need for customers to carry passbooks or ATM cards that come with the hassle of remembering PIN numbers. If this pilot is proven successful in PNG, PFIP hopes to rollout similar projects across the Pacific.

RUSSIA

I. Introduction

According to the Bank of Russia data, 89.4% of adults in Russia have at least one current account with a credit organization²¹. Consumer lending market is actively evolving through incorporation and usage of innovative digital technologies. The payment infrastructure is well developed; the number of credit and non-credit financial organizations is high. There are many paying agents and banking paying agents, payment terminals are popular all around the economy, and the trend for distant account management via mobile applications is growing.

Nevertheless, there are still several issues to be resolved. To reach the last-mile consumers and to provide a wide range of high quality financial services, Russia has created necessary infrastructural instruments.

The main institution responsible for financial inclusion is the Service for Consumer Protection and Financial Inclusion, a special division in the Bank of Russia. The Service deals with a wide range of issues, such as increasing consumer confidence in the financial system, detecting and preventing consumer rights violations in the financial market, making financial services accessible for all categories of consumers, and promoting financial education of consumers and SMEs.

Another agency active in this field is the Ministry of Finance of the Russian Federation. It leads the implementation of the Financial Literacy National Strategy. Since 2011, under the financial literacy project of the Ministry of Finance, 11.5 million of the textbooks were sent to Russian schools.

Strategies and roadmaps play an important role in the promotion of financial inclusion in Russia. These documents recognize the current challenges in the sphere and suggest concrete measures to deal with them. Thus, the Bank of Russia's Financial Inclusion Strategy for the Russian Federation for 2018-2020 aims to provide access to financial services to the residents of remote or hard-to-reach areas, SMEs and households with limited access to financial services. The document sets forth the following priority goals:

²¹ Financial inclusion indicators can be found on the official website of the Bank of Russia.

1. Improve the accessibility and quality of financial services for financial consumers in remote or hard-to-reach areas, SMEs and population groups with limited access to financial services (low-income, disabled and elderly persons as well as other mobility-impaired groups);
2. Increase the speed and quality of access to financial services for the households with an Internet connection.

The concept of “developing through the Strategies” in Russia goes hand in hand with annual financial inclusion monitoring, publication of the financial inclusion measurements (based on data received from the financial organizations and surveys of population and SMEs) and expert dialogue in working groups comprising public authorities and private sector.

II. FinTech and Financial Inclusion: Barriers and Challenges

Innovations play an important role in promoting financial inclusion and helping to improve the quality and expand the range of the financial services and products on offer. To deliver on its main goals, the Financial Inclusion Strategy for the Russian Federation for 2018-2020 focuses on digital products and services, digital channels and ICT infrastructure, financial institutions’ cooperation with communication service providers and financial agents, as well as the feasibility of providing financial services via satellite TV channels and other alternative technologies.

However, the integration of Fintech into the existing financial system requires addressing several important barriers and challenges, such as:

- timely and proper upgrading of financial infrastructure and regulations,
- cyber security issues, including data privacy and data protection,
- low level of financial literacy potentially leading to improper use of the digital financial services.

III. FinTech and Financial Inclusion: Developing through Strategies

“Developing through strategies” is the key approach we use to deal with the above challenges of FinTech integration. Several high-level program documents offer concrete measures for timely upgrading of the financial infrastructure and of the regulatory and supervisory framework, as well as for increasing information security and financial literacy.

Firstly, in order to create general conditions for the digitalization of all sectors of the Russian economy, in July 2017 the Russian Government adopted the Program "Digital Economy of the Russian Federation". The Program consists of six federal projects: "Regulation of the digital environment", "Digital technologies", "Information security", "Information infrastructure", "Digital public administration" and "Human resources for the digital economy". The main objectives of the Program are to remove legal barriers, ensure information security, develop technologies, create necessary infrastructure, introduce innovative approaches to public administration, and provide the economy with competent specialists. The Program is aimed at developing both public and private sectors and their integration, which is key for the digitalization of the economy in general.

Secondly, to ensure favorable conditions for the development of innovations in the financial market, in 2017, the Bank of Russia devised the Guidelines for the Development of Financial Technologies in 2018 – 2020. The Guidelines define the key issues in the field of financial technology promotion, including:

- legal regulation of FinTech;
- development of digital infrastructure (digital biometric identification, fast payments system, financial marketplace, DLT platform, cloud services, etc.);
- transition to electronic communications between the Bank of Russia, government authorities, market participants and their clients;
- development of a regulatory sandbox for piloting innovative financial technologies, products and services;
- international cooperation;
- cybersecurity;
- development of human resources.

Thirdly, apart from the need to constantly amend legislation, the usage of new financial technologies leads to certain information security concerns. The Strategy of Information Security System Development for the period of 2018-2022 introduced by the Bank of Russia offers a comprehensive set of measures to prevent cyber threats from materialising and minimize the consequences of cyber breaches and attacks. In particular, it aims at advancing information security and technology sustainability standards, rules and laws. The Financial Inclusion Strategy for the Russian Federation for 2018-2020 also pays significant attention to the information security challenges posed by the progress in financial technology and points out the need for improving consumer protection and financial literacy.

Finally, financial inclusion enhancement goes hand in hand with promoting financial literacy and awareness. To keep pace with the rapid change in financial technology, in 2017 the Russian Government approved the National Strategy for Improving Financial Literacy in the Russian Federation for the period of 2017-2023. The document aims at promotion of financial inclusion, financial literacy and consumer protection through establishing a necessary institutional base and educational methodology.

IV. FinTech and Financial Inclusion: Impact of the Strategies

Even though most of these Strategies and Guidelines were adopted only a few years ago (in 2017 at earliest), certain important results are already present.

For instance, 2017 amendments to federal legislation made it possible for the Bank of Russia to launch the Remote Identification Mechanism (2018), a big Fintech project intended to facilitate access to and usage of financial products and services. The mechanism allows an individual user to get a faster access to a wide range of their account operations after confirming the biometrical personal data (face image and voice).

In 2018, the Bank of Russia launched a regulatory sandbox, another essential instrument for Fintech development and promotion. It allows to pilot innovative financial technologies and services, test hypotheses regarding their positive impact on the financial market and customers, analyze and model emerging risks, and use the results to adapt the current regulatory and legal framework accordingly. Several projects have been successfully piloted and in one case regulations have already been amended to allow for the service's launch in the market.

In 2017, the Bank of Russia collaborated with financial market participants to establish a platform for cooperation between the regulator and the largest financial organizations so that it would help develop major Fintech initiatives - the FinTech Association. It works in the following Fintech areas: distributed ledger technology (pilot projects based on the DLT platform "Masterchain"), digital biometric identification and digital identity management, the Fast Payments System, and Open API.

Moreover, in 2017 the Bank of Russia launched its financial literacy website Fincult.info (<https://fincult.info/>). The website offers important recommendations and information on financial innovations to help its readers make effective financial decisions and is designed to reach a wide audience of consumers at varying levels of economic awareness and financial capacity.

Of course, much remains to be done. For instance, by-laws covering the operations of crowdfunding platforms are being developed today²².

V. FinTech and Financial Inclusion: Contribution to Regional Cooperation

International cooperation is crucial as most of the new technologies easily operate across borders. Along with economy strategies and measures, such cooperation could be one of the essential instruments for addressing the main challenges of Fintech development and usage.

As there is no full consistency yet in regulatory approaches across jurisdictions, regional cooperation could help harmonize regulatory frameworks. Harmonising regulations could contribute to leveling the playing field, dealing with data security issues and facilitating the global adoption of new technologies. Moreover, regional experience exchange could help financial education to keep pace with rapid changes in financial technology.

²² Federal Law No.259-FZ of 02.08.2019 "On Investment Raising with the Use of the Investment Platforms and Amendments in the Legislation of the Russian Federation" was adopted.

CHINESE TAIPEI

I. Introduction

Briefly explain the economy's socioeconomic context including the financial system and related infrastructure for implementation of financial inclusion.

Financial inclusion has become an important issue around the world; over 50 economies have included the improvement of overall financial inclusion in their policy goals. According to the 2017 Global Findex statistics of the World Bank, the percentage of our domestic bank account holders with primary education or less was far lower than the percentage of those with secondary education or more (the gap is 13%). Meanwhile, this percentage in the young generation was 10% higher than that in adult generation. The percentage in the high-income group was 5% higher than that in the low-income group. We are committed to increasing the availability of financial services and implementing multiple measures to facilitate the offering of financial services with lower costs, and, in particular, to increase accessibility of financial services for people in remote areas and for the underprivileged social groups.

II. Barriers and Challenges

Briefly describe the barriers and challenges to promoting the use of financial technology to promoting financial inclusion.

Examples of the barriers and challenges are as follows:

1. Some groups of people with physical disabilities have said that a uniform regulatory requirement on accessible financial services is needed for people with physical disabilities. Different banks have adopted different practices in this regard.
2. Most financial institutions are not willing to offer audio ATM services to people with visual impairment as the utilization rate is low and such services are expensive and are not cost-effective.
3. Government agencies, medical institutions and small stores (such as street vendors) did not have POS systems to e-payment services. It was relatively inconvenient for the e-payment users.

III. Approaches in Addressing Barriers and Challenges

Describe approaches undertaken or followed to address barriers and challenges to:

1. Developing and promoting the usage of financial technology;
2. Applying financial technology to facilitate access to and usage of financial products and services;
3. Consumer protection issues arising from the usage of financial technology ; and
4. Financial education to keep pace with rapid changes in financial technology.

We have introduced the following measures to advance financial inclusion:

1. Expedited financing to businesses: We have continued to encourage domestic banks to grant loans to small and medium enterprises and introduced a program providing incentives to domestic banks for granting loans to key innovative industries. We

encourage domestic banks to actively grant loans to start-ups in emerging creative industries and also keep their risks under control.

2. We encouraged financial institutions to provide financial services in rural areas that lack financial services and relaxed the requirements on branch establishment in remote areas for banks.
3. Increased accessibility of financial services to people with disabilities: Our financial regulator has invited social groups for people with physical disabilities to attend related meetings to understand their needs. The financial regulator has also urged financial institutions to provide accessible financial services and asked the Bankers Association to develop the Guideline for Accessible Financial Services and prepare a Q&A about related practices in order to establish uniform standards for all banks.
4. Promoted mobile payment and e-payment services: We aim to double e-payment ratio from 26 % to 52% by 2020. The financial regulator plans to facilitate e-payments in government agencies and medical institutions. Also, the financial regulator encourages financial institutions to launch various mobile payment services. The financial regulator integrates financial payment instruments and smart mobile devices with different technologies in order to increase the popularity of terminal devices for mobile payment in domestic businesses. The Act Governing Electronic Payment Institutions was introduced to address the needs of non-financial institutions with e-commerce activities and small and individual vendors for e-payment services.
5. Facilitated digitalization of financial services: With amendment of related regulations, bank customers now can directly close accounts, apply for personal loans and credit cards, and open accounts for trust arrangements through online applications. Meanwhile, customers can open digital saving account online and the process for banks to apply for e-banking business has been simplified.
6. Strengthened financial education and financial knowledge promotion: Our financial regulator has held events on campuses and in communities to promote financial knowledge, made short video clips on financial consumer protection and compiled and printed promotional pamphlets to increase consumer financial knowledge. Meanwhile, the regulator has also held promotional meetings for new knowledge relating to consumer protection for the banking industry to enhance the consumer protection literacy of bank staff.

IV. Impact

What were the impacts of the approaches and how did they assist in overcoming the barriers and challenges?

1. With respect to accessibility of financial services, banks have provided accessible service at their business venues. With regard to accessible online services, the Bankers Association has provided accessible inquiry services in the “accessible services” section on its website.

2. As of the end of April 2019, a total of 26,811 ATMs, or 91%, of all ATMs provided accessible services to wheelchair users. In addition, the ATMs providing audio services have been first installed at the locations recommended by groups for people with visual impairment.
3. As of the end of 2018, 44 applications for branch establishment in areas lacking financial services, including 29 branches of domestic banks and 15 branches of credit cooperatives, had received their approval.
4. As for promotion of mobile payment and e-payment services, e-payments accounted for 38.29% of all domestic payments in 2018 and the total amount of transactions made via e-payment instruments reached US\$1,144 billion, 51% up from 2015 (US\$756 billion).

V. Challenges and Lessons

What challenges did you encounter in the approaches and what steps did your economy take to manage these challenges? What lessons were learnt? How can regional cooperation contribute to addressing these challenges?

1. With advancements of technology, economy, and society, financial institutions can now provide services not limited by their physical branches and business hours. This development has lowered related transaction costs and facilitated the promotion of financial inclusion.
2. We will continue to understand the needs of different parties for financial services, communicate with financial institutions, adopt related measures to satisfy the needs of different social groups for financial services, and thus, achieve financial inclusion.

ASIAN DEVELOPMENT BANK

ADB Pilot Projects Integrating Digital Financial Solutions

I. Introduction

The ongoing evolution of financial technologies and unprecedented speed of technological adoption represent a promising avenue for bridging financial inclusion gaps in Asia and the Pacific. Across the region, one billion adults lack access to financial services. On the other hand, the region is home to 4.1 billion mobile phone owners and 1.7 billion individuals with access to the internet.²³ As such, mobile payments, cloud-based platforms and banking systems, and tablet-based digital applications—under the wider umbrella of Fintech—have emerged as especially valuable tools for reaching a largely unbanked population spread across remote areas, where traditional financial infrastructure is not in place.

²³ World Development Indicators, The World Bank; and International Telecommunication Union.

Credit constraints and a lack of financial access remain critical challenges for economic development across Asia and the Pacific. Financial exclusion moreover further entrenches the difficulties encountered by already marginalized populations—farmers adversely affected by climate change, women, households in rural or underserved areas—as those most in need of credit face the most stringent borrowing requirements at the highest interest rates. Digital financial technologies present a way to address these challenges by leveraging the efficiency gains to banks and nonfinancial institutions and ultimately expanding financing access to underserved populations. In this way, digital financial solutions provide a path forward for not only enhancing financial inclusion, but for strengthening economic activity, as expanded access to finance and insurance allows formerly underserved segments of the population to contribute more fully to the economy, thereby promoting economic development.

ADB recognizes the potential of emerging technologies to overcome the remaining financial access gaps in the region. ADB has extended support for the integration of digital financial technologies and services through pilot projects, in partnership with several developing members. In 2015, ADB approved a regional technical assistance program facilitating the use of digital financial services in enhancing financial inclusion.²⁴ The following note will provide a brief overview of ADB’s experience in this area, placing particular emphasis on the case of the Philippines while considering pilots in other economies, and highlighting challenges, solutions, and lessons learned. The note will conclude with policy considerations, which could also be relevant to APEC member economies.

II. The Philippines Case: Cloud-Based Core Banking in the Philippines^{25,26}

In June 2017, ADB and Cantilan Bank, Inc. (CBI) signed an agreement to implement a pilot project to enhance financial inclusion in the Philippines, supported by grant funding from ADB.^{27,28} The pilot saw the full migration of CBI to a cloud-based core banking system, the first under the regulation of the Philippine central bank.

Limited financial access remains a salient issue in the Philippines, with only three out of 10 Filipinos having access to a bank account.²⁹ Disparities in financial inclusion are moreover compounded as financial infrastructure is most lacking in rural and remote areas and the costs of servicing clients in high-risk frontier areas are high. Forty-one percent of unbanked Filipinos reside in Mindanao, the base of Cantilan Bank’s operations.

²⁴ The technical assistance program, TA 9017-REG: Unlocking Innovation for Development, was approved 9 December 2015. For more information, please see <https://www.adb.org/projects/documents/unlocking-innovation-development-tar>

²⁵ ADB (2019). Cloud-Based Core Banking in the Philippines. <https://www.adb.org/sites/default/files/publication/498491/cloud-based-core-banking-philippines.pdf>

²⁶ ADB (2018). Cloud-Based Banking. <https://www.adb.org/sites/default/files/project-documents/49242/49242-001-dpta-en.pdf>

²⁷ ADB (2018). Cloud-Based Banking. <https://www.adb.org/sites/default/files/project-documents/49242/49242-001-dpta-en.pdf>

²⁸ The project is moreover closely linked to a \$300 million policy-based lending program approved on 19 September 2018 to the Philippines government, the Inclusive Finance Development Program, aiming to promote an inclusive and resilient financial sector.

²⁹ ADB (2018). Cloud-Based Banking. <https://www.adb.org/sites/default/files/project-documents/49242/49242-001-dpta-en.pdf>

Digital finance systems offer a platform for overcoming this financial divide. In particular, cloud-based banking systems provide a promising solution, enhancing operational efficiency and facilitating increased flexibility, accuracy, cost reduction, and customer convenience while serving wider segments of the population. Such systems provide small and medium-sized financial institutions—and rural banks, in particular—with the needed infrastructure and computational resources that might otherwise be too complex or costly to operate on their own, while offering largely underserved and unbanked individuals with opportunities to save, make payments, take out loans, or buy insurance.

Implementation of the planned transition from the conventional on-site banking system to the cloud-based Software as a Service (SaaS) system by Cantilan Bank and its service provider partner, Oradian, began in 2017. The following year saw the full migration of all branches across 12 provinces to the cloud, culminating in the discontinuation of the legacy system in January of 2019 (Figure).

Figure 1. Implementation Timeline of Cantilan Bank, Inc. Transition to Cloud-based Core Banking System



Source: ADB (2019). Cloud-Based Core Banking in the Philippines. <https://www.adb.org/sites/default/files/publication/498491/cloud-based-core-banking-philippines.pdf>

Cantilan Bank’s transition to a cloud-based system illustrates both success factors and challenges which can be instructive for similar initiatives in the future. Underpinning the project’s success were extensive buy-in from senior management, a solid business case, the formation of a dedicated team working on the transition at an early stage, and close alignment of partners’ strategic vision. The heavy involvement of the service provider as a committed and responsive partner helped to smooth the transition. The successful transition to a fully cloud-based core banking system was also the product of fruitful collaboration between the private sector, government, and ADB, with all players making important contributions. Open and constructive dialogue since the project’s beginning prompted a solution-oriented approach and helped move implementation forward. The emergence of immediately visible benefits or small wins also helped to drive momentum to counteract system change fatigue.

The pilot project further demonstrated the potential of regulatory sandboxes in overcoming resistance to technological financial solutions. The Bangko Sentral ng Pilipinas adopted a sandbox approach, placing the project in a test-and-learn environment and giving the green light only after the pilot testing had concluded. Such an approach helps government agencies navigate the tradeoffs between regulatory oversight and

innovation, allowing them to provide an enabling environment while safeguarding consumer protection.

The challenges encountered during the project's implementation can also shed light on important lessons to consider moving forward. The experiences of Cantilan Bank highlighted the need to provide ample time for implementation. The longer-than-expected transition process, requiring 30 months instead of the initially expected 18, resulted in considerably higher workloads than originally foreseen. Consequently, the project would have benefited from additional manpower dedicated to executing the transition. The extent of support required, and the complexity of the change process were likewise underestimated. A clearer outline of internal management procedures or decision-making frameworks, such as a communications escalations plan, could have eased the response to unforeseen difficulties. Challenges in connectivity and integration of third-party solutions, compounded by difficulties in accounting, audit, and reporting procedures not yet updated to the cloud, led to further implementation delays.

III. Pilot Projects on Digital Financial Solutions in Other ADB Developing Members

In line with broader efforts to facilitate the adoption of digital financial technologies to bridge financial access gaps across the region, ADB has supported pilot projects in several developing members. These pilot projects seek to reach marginalized groups residing in underserved areas and highlight the potential of digital financial technologies to bridge gaps in financial access in remote regions.

In Bangladesh, ADB has piloted the use of weather index-based crop insurance to enhance the financial protection of rice farmers in three areas, including drought-prone Rajshahi. This pilot project leverages on three innovative components to expand farmers' access to insurance, including parametric weather indices derived from climate data, automatic weather stations, and mobile banking services. The use of parametric weather indices based on climate data from the Bangladesh Meteorological Department has allowed for the determination of trigger points for payout following movements in precipitation above or below predetermined levels. Automatic weather stations have facilitated timely claims settlement in the aftermath of disasters. Importantly, over 9,500 small farmers were insured through Sadharan Bima Corporation. Finally, mobile banking services have increased the efficiency and transparency of the collection of insurance premiums (with premium contributions divided according to a 50:25:25 ratio between farmers, the government, and project financier) and the payment of claims. By expanding the financial protection of crop farmers in Bangladesh, the project seeks to enable farmers to increase their productivity, enhance the stability of their income, and more broadly navigate weather-based uncertainties which are further heightened by climate change.

In Papua New Guinea, ADB is designing a pilot project with MiBank and Women's Microbank that seeks to facilitate the distribution of a digital access tool to extend financial services to low-income individuals in remote areas. Financial inclusion remains a critical issue for the economy, with 85% of the low-income population lacking access to formal financial institutions and women and rural dwellers the most adversely affected. And while mobile penetration has grown to include an estimated 54% of the population, internet use and electricity distribution remain restricted to 12% and 20% of the population, respectively, as geographical barriers (e.g. mountainous terrain, widely dispersed populations) lead to elevated costs. A digital access tool leveraging smart cards

and Near Field Communication technology presents an opportunity to overcome these constraints by extending financial services to low-income and underserved populations in a safe, secure, and cost-effective way. This digital instrument enables the verification of personal attributes, such as name, gender, and biometric information, without the need for internet connectivity or electricity. In this way, this technological innovation presents financially underserved individuals with an avenue into the formal sector, offering a platform to make payments, access credit, increase savings and investments, and participate in meaningful business and livelihood opportunities.

For FINCA Bank Georgia (FBG) ADB is supporting the development of a digital field application that offers a means by which to reconcile the lack of formal access to credit by MSMEs and smallholder farmers in Georgia. Although the financial infrastructure in the economy is relatively well-developed, financial activity is largely concentrated in the capital, Tbilisi, precluding MSMEs and smallholder farmers in remote areas from accessing reasonably priced credit. Tablet-based digital tools seek to circumvent this by allowing FBG to automate credit management, loan underwriting, and the onboarding of new clients in a cost-effective way. This should lead to reduced costs and underwriting expenses, decreased customer service response and transaction times (from 45 to 15 minutes), and an expanded rural base for FBG. Borrowers should likewise benefit through easier access to credit and more streamlined loan processing.

The diverse pilot projects highlight the potential of evolving digital technologies to address the shared lack of financial inclusion across different economy contexts. Individuals lacking access to credit and financing represent broad sectoral and industry compositions and vary in composition across economies (with farmers comprising a critically excluded group in Bangladesh and Georgia, MSMEs representing an important segment of those excluded in Georgia, and low-income individuals in remote areas excluded across all the cases discussed). The economy cases highlighted above moreover vary in terms of financial infrastructure (with Papua New Guinea lacking in infrastructure and characterized by geographical difficulties, such as mountainous terrain or widely dispersed populations; and Georgia featuring well-developed financial infrastructure largely concentrated in the nation's capital). One common theme cutting across the different pilot projects is the potential of digital financial technologies to enable efficiencies in financial operations, allowing for the automation and optimization of workflows, the reduction of transaction costs and customer service response times, and the broadening of customer bases. In this way, digital financial technologies can simultaneously strengthen financial inclusion while unlocking gains to the economy as a whole.

IV. Lessons Learned and Policy Considerations

Digital financial technologies represent a promising way to bridge the financial access gaps in Asia and the Pacific. Financial inclusion remains a critical constraint for the region's economies as large segments of developing Asia—particularly, marginalized groups and those residing in rural and remote areas—lack formal access to financial services, further entrenching the financial divide. Advancements in digital technologies offer a way to mitigate these constraints, enhancing efficiency and strengthening financial inclusion in the process. Through various pilot projects with developing members, ADB has solidified its support for digital financial services in expanding financial access. And while many of these pilots are still in the implementation stage, the

different experiences and economy contexts highlight important challenges, solutions, and lessons learned.

The successful adoption of new technologies to promote financial access requires strong internal, as well as external, support. Internally, a strong commitment to behavioral change is needed, including clear internal management and communication procedures, extensive buy-in from senior management, and a dedicated team to ensure a smooth implementation. Continuous reorganization, training, and adjustment of business processes also need to be undertaken in order to adapt to changing technological developments and requirements. External support, in the form of strong and committed partnerships, also play a role. As the Philippine case demonstrated, a consistent and aligned strategic vision can help ensure the project's success. The consistent commitment and substantial contribution of the service provider in the Philippine case also proved to be an invaluable source of support.

The diverging economy experiences and contexts illustrate the potential of digital solutions to cut across unique economy contexts in order to solve the shared problem of financial inclusion. While the particular groups lacking in formal access to finance may vary from economy to economy, the evolving technologies provide a way to leverage upon enhanced efficiencies and translate these gains into expanded financial access and enhanced inclusion, contributing to economic gains in the process.

ADB's ongoing pilot projects highlight lessons which may be relevant to policy makers in the region. First, policy makers need to update regulations and processes in order to keep pace with an evolving technological landscape and to align compliance structures with new business models. Second, policy makers need to issue clear, user-friendly guidelines on how institutions can adopt financial technologies, while balancing security and data integrity concerns and ensuring the privacy and protection of consumers. Third, in navigating the tradeoffs between maintaining a dynamic and enabling market environment and ensuring regulatory oversight and consumer protection, policy makers could consider the creation of regulatory sandboxes to test technological innovations. In creating such arrangements, one needs to put in place clear structures for entering and exiting the sandbox and can moreover consider maintaining the regulatory sandbox for some time after the legacy system is discontinued in order to reduce the commercial and legal risks of noncompliance with regulations still based on the older prevailing systems.

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

OECD & Financial Inclusion

Rationale: Why is financial inclusion a priority for the OECD?

Financial education, financial consumer protection and financial inclusion are essential ingredients for both the financial empowerment of individuals and the overall stability of financial markets and economies, particularly in the context of the changing pace of technological progress and the advancement of digital financial services. For individuals,

financial inclusion can involve reduced transaction costs and increased safety provided by the formal system over cash or informal providers. Those who engage with financial products and services are more likely to start and grow businesses, access education, consider a variety of risks and withstand financial losses. These benefits at the individual level in turn lead to economy level improvements in human and social development, economic growth, job creation as well as reductions in poverty and income inequality rates. At a macro-level, financial inclusion results in a diversified base of deposits creating a resilient financial system and increased stability. These benefits are seen worldwide, including in the APEC region.

Entrepreneurs and small and medium-sized enterprises (SMEs) are essential contributors to economic growth and job creation. Increasing their access to finance is another key emphasis for the OECD in the area of financial inclusion.

Approach: Financial education, financial consumer protection and financial inclusion go hand in hand

Enhancing financial inclusion requires a comprehensive approach that includes financial education and a sound financial consumer protection framework.³⁰ Well-designed consumer protection frameworks can generate consumer trust and confidence, leading to more active and appropriate use of financial products and services by consumers. At the same time, there is an increased need to improve financial literacy of individuals given the transfer of a range of financial risks to consumers, growing complexity of financial products/markets and the increase of active investors in the financial landscape. Financial education can therefore play a role in protecting consumers and further building trust in the financial sector. This is especially relevant in APEC economies, many of which have low, but rapidly increasing levels of access to financial services.

The digitalisation of financial services brings many new benefits but also a number of challenges for financial inclusion. It provides a means to address barriers such as the high costs of providing financial services and physical infrastructure constraints. The benefits of digitalisation include lower consumer costs as well as more convenient, faster and secure transactions. Further, there are opportunities for innovative product design to reach disadvantaged groups (such as women and low-income households) and, in doing so, advance their integration into the formal financial system. Recent consumer protection initiatives attempt to address some of the challenges of digitalisation including digital fraud and misuse of client information, data security and cybercrime. Other challenges remain, including low levels of digital literacy as well as the need for a reliable infrastructure, including widespread provision of electricity and reliable mobile and internet networks.

Digitalisation in finance also brings many new opportunities for entrepreneurs and SMEs. The OECD has intensified its work in this area in recent years. In addition to examining finance gaps for SMEs, policies to support bank and non-bank financing, and initiatives to strengthen the financial literacy of entrepreneurs and SMEs, current work emphasises the potential for marketplace lending and blockchain-based Initial Coin Offerings (ICOs) as mechanisms for SME financing.

³⁰ Effective consumer protection frameworks comprise supportive regulatory and supervisory environments, disclosure and transparency, ethical and fair business practices and effective dispute resolution mechanisms.

A global leadership role

Since 2002, the OECD is actively involved globally in developing policy research and guidance on a variety of financial inclusion issues, with a particular focus on the benefits and challenges brought by digital financial services for financial education and financial consumer protection, supporting the implementation of the agendas of the G20 and its Global Partnership on Financial Inclusion (GPFI) on these matters. In recent years, this work has included leading or contributing to the development of high-level principles, recognised and endorsed by G20 leaders, on Innovative Financial Inclusion (GPFI, 2010), Financial Consumer Protection (OECD, 2011), National Strategies for Financial Education (OECD, 2012), SME Financing (G20/OECD, 2015) and Digital Financial Inclusion (GPFI, 2016). The complementary Policy Guidance Note on Financial Consumer Protection Approaches in the Digital Age and Policy Guidance Note on Digitalisation and Financial Literacy, both developed in 2018, further enhance the policy tools available. In addition to policy guidance further documents have taken stock of current activities, identified effective approaches and provided comparative data, including the G20/OECD INFE (International Network on Financial Education) report on Ensuring financial education and consumer protection for all in the digital age (2017) and the G20/OECD INFE report on financial literacy in G20 economies (2017). In 2019, the GPFI and the OECD developed the G20 Fukuoka Policy Priorities on Aging and Financial Inclusion, recognising the importance of demographic change.

The OECD assumes global leadership in financial education. In 2002, the OECD launched a comprehensive project on financial literacy, which was in 2008 further enhanced through the creation of the International Network on Financial Education (OECD/INFE). OECD/INFE is today made up of members from 120 economies. It collects cross-comparable data and evidence, undertakes research and comparative analysis, develops policy instruments and standards, and designs methodologies to measure impact. The G20/OECD Task Force on Financial Consumer Protection looks after the implementation of the G20 High-level Principles on Financial Consumer Protection (2011). It is open to all G20 and FSB members, other relevant international organisations and standard setters.

APEC and financial inclusion: OECD engagement since 2012

APEC's policy priorities are the starting point. The OECD, by leveraging its existing programme of work, endeavours to connect OECD evidence and expertise with APEC policy discussions. Concretely, this includes developing joint instruments, tools and guidelines, responding to APEC invitations to speak at events, serving as reviewer on APEC analytical outputs, sharing OECD data, methodologies, tools and analysis as well as contributing to the realization of capacity development activities, such as workshops. The OECD engages in a similar fashion with fora such as the G20, enabling scale and synergy effects and mutually benefiting involved stakeholders from all sides. Since 2012 (Russian APEC host year), when the OECD supported the development of the APEC financial literacy agenda with the organisation of two workshops, the OECD has continuously supported APEC in the area of financial inclusion with a particular focus on financial education/literacy but also in other areas such as SMEs. In 2018/2019, the OECD is contributing to the APEC agenda with an OECD/INFE report on financial education in APEC member economies. The OECD also works with individual APEC economies to collect relevant data and to help them design and implement their strategies, frameworks and policies in the area of financial inclusion.

2020: possibilities for further collaboration

Building on contributions to successive APEC host economies since 2012, the OECD stands ready to continuously support APEC in the area of financial inclusion, including the planned APEC Roadmap on Digital Financial Inclusion. The following suggestions are indicated as examples only and non-exhaustive:

- This year, the OECD has piloted a new survey instrument on retail investors and crypto-assets in Malaysia, Vietnam and the Philippines. Such data collection could enable the OECD to develop, from a demand perspective, an analysis of opportunities and risks of investment and financing through crypto-assets and develop policy recommendations for the APEC region.
- The OECD could support APEC economies wishing to join the 2019-20 OECD/INFE coordinated measurement exercise to measure financial literacy and inclusion, with the aim of developing a global report and a possible dedicated regional note in 2020.
- APEC economies could join the OECD Scoreboard on Financing SMEs and Entrepreneurs by supplying relevant information.
- The OECD could assess access to finance issues in APEC economies amongst women and youth entrepreneurs, who tend to experience greater access to finance problems.
- Endorsement of the High Level Principles on Financial Consumer Protection by APEC, which would provide a baseline standard for APEC economies and a strong platform for further work.
- Other possibilities in the area of financial consumer protection: development of case studies from the region on supporting financial innovation within a sound consumer protection framework, or a study on data privacy and data protection issues.

APPENDIX B: INDIVIDUAL ECONOMY REPORTS

AUSTRALIA

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

The Government announced the introduction of an Open Banking regime in Australia in its 2017–18 Budget. Open banking will be implemented as part of the Consumer Data Right (CDR) in Australia, a more general right to data being created across the economy following a recommendation by the Productivity Commission’s Data Availability and Use Inquiry. The CDR will be established sector-by-sector, beginning in the banking, energy and telecommunications sectors.

The ACCC is responsible for promoting competition and customer-focused outcomes in the system, while the Office of the Australian Information Commissioner will ensure privacy protection. Data61, the data arm of the CSIRO, will perform the role of a Data Standards Body, developing technical standards in collaboration with industry, FinTechs, and consumer and privacy groups.

Open banking enables a consumer to direct that they or chosen third parties be provided with their banking data in a secure environment, thus enabling access to new or better services, for example more competitive or personalised products or tools.

The Government’s planned open banking regime has the potential to empower consumers in their decision making and stimulate competition and innovation in the financial services sector. From ASIC’s perspective, one of the benefits from Open Banking is that it has the potential to help Australian financial institutions with making better lending decisions and complying with their responsible lending obligations. Open Banking should provide lenders with access to more comprehensive information about their prospective borrower’s banking transaction history (subject to consent being granted). Although this data can currently be acquired manually, accessing it through the Open Banking platform will enable the data to be transferred more quickly in machine-readable format and provide lenders with comfort that the records are genuine and reliable.

Over the medium-term, Open Banking may provide opportunities for fintech start-ups whose business models are geared toward facilitating better access to banking services, particularly to those who currently have little or no access.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

ASIC is hosting a problem-solving event in August on the use of artificial intelligence to monitor promotions of financial services and products. ASIC and industry will supply

datasets to be assessed against statutory requirements and ASIC's guidance. Regtech firms will then showcase the effectiveness of any regtech solutions. The event would contribute to:

1. ASIC's strategic vision of promoting regtech development and use in Australia;
2. ASIC's work with industry to lift standards of conduct and enhancing risk management and compliance systems and processes across financial services firms;
3. promoting further collaboration between stakeholders within industry to consider more cost-effective monitoring of business conduct;
4. driving positive outcomes for consumers through better provision of financial services; and
5. informing ASIC of the potential future applications of regtech to enhance efficiency and effectiveness of our supervisory activities.

ASIC is presently undertaking a review of the ePayments Code. The Code regulates electronic payments, including ATM, EFTPOS / credit / debit card transactions, online payments, internet/mobile banking and BPAY. ASIC is responsible for administration of the Code, including reviewing it regularly.

It is currently a voluntary code of practice. Banks, credit unions, building societies and some other providers of electronic payment facilities subscribe. The Code plays an important role in the regulation of electronic payment facilities in Australia. It complements other regulatory requirements e.g. financial services and consumer credit licensing, advice, training and disclosure obligations under the Corporations Act and NCCP Act, and consumer protections in the ASIC Act. Subscribers must warrant that they comply with the Code in the terms and conditions they give to consumers – this means that compliance with the Code must be a term of the contract between the subscriber (e.g. bank) and the customer. Customers can complain about a breach of the Code to the Australian Financial Complaints Authority (AFCA) if the subscriber is an AFCA member.

One focus of our current review is to consider how we can 'future proof' (to the extent possible) the Code considering continuing technological developments in the payments space.

The National Consumer Credit Protection Act 2009 which includes the National Credit Code contains specific provisions relating to financial inclusion and consumer education including a requirement to provide a warning statement in advertising advising of the alternatives to a high cost loan (s133CB of the Act) and specific consumer protection initiatives to reduce debt spirals and the associated harms of repeat borrowing such as:

1. restrictions on fees and charges (s31A of the National Credit Code);
2. a protected earnings amount for consumers who receive 50% or more of their income from Centrelink (s133CC of the Act);
3. a cap on the amount that can be charged should a consumer default (s39B of the National Credit Code);
4. a cap on the amount that can be charged if the consumer is taking out a loan to refinance another small amount loan (s39A of the National Credit Code);
5. a presumption that a loan will be unsuitable if the consumer is in default under another small amount loan or has two or more other small amount loans in the last 90 days (s131(3A) of the Act); and
6. a requirement to collect and consider 90 days of account statements when considering whether the small amount loan is suitable (s130(1A) of the Act).

ASIC is the lead government agency for financial capability. To enhance the financial capability of all Australians and helping them to be in control of their financial lives, ASIC seeks to influence the core behaviours of managing money day-to-day, planning for the future and making informed decisions. ASIC aims to achieve this through the following workstreams:

1. leading the National Financial Capability Strategy;
2. managing a growing Financial Wellbeing Network;
3. delivering information direct to consumers through the MoneySmart website;
4. supporting activity to drive better outcomes for Indigenous Australians; and
5. collaborating with the formal education sector.

The National Financial Capability Strategy provides long-term priorities for Government, business, communities and the education sector to collaborate on building and strengthening financial capability. More than 150 organisations contribute to the National Strategy's initiatives. As part of our lead role, we coordinate the Financial Wellbeing network that consists of approximately 1,250 professionals representing over 200 organisations.

As part of ASIC's regulatory toolkit whereby ASIC aims to ensure informed participation in financial markets, ASIC provides up-to-date resources, tools and impartial information empowering consumers to make informed and confident financial decisions. For example, through ASIC's MoneySmart program, ASIC interacts with millions of Australians each year, primarily online via the MoneySmart website but also through social media, feedback and other promotions.

To enhance life-long financial capability and inclusion, ASIC implements the Indigenous Outreach Program (IOP) which works with industry and consumer advocates to increase financial knowledge of and improve financial services provided to Indigenous Australians. The IOP also assists with complaints, develops Indigenous educational materials, and engages with Indigenous communities to understand the financial challenges they face.

In educating young Australians about money and financial concepts, ASIC delivers the MoneySmart Teaching program (more than 60% of Australian schools have engaged with the program) which provides free, online professional development courses aligned to the Australian Professional Standards for Teachers, to improve teachers' own financial wellbeing, boosting their confidence to teach financial literacy. The program includes free ready-to-use classroom resources aligned to Australian curriculum. We also offer people training to be teachers professional development modules on financial capability which are aligned with Graduate Professional Standards for Teachers.

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Australia works in partnership with the United Nations Capital Development Fund (UNCDF) through the Shaping Inclusive Finance Transformations in ASEAN (SHIFT) program. SHIFT aims to create inclusive financial markets and provide access and use to

finance for low-income people, especially women, and micro, small and medium enterprises (MSME).

- SHIFT does this by supporting activities in Cambodia, Lao PDR, Myanmar and Viet Nam (CLMV), as well as regionally in ASEAN through:
 - i. challenge fund investments that provide grants and co-funding to private financial service providers. Investment supports development and expansion of innovative business models and digital financial services for low-income people and women-led enterprises. Four challenge windows have been held including on, clean energy and financing, women's financial inclusion, remittances for financial inclusion, and women's enterprise Fintech innovation fund;
 - ii. data and analysis to inform financial inclusion approaches, to support program partners including private sector, policy makers and regulators. This is further used to influence development of economy-led financial inclusion strategies/roadmaps;
 - iii. policy and advocacy to form partnerships and alliances and influence government policy makers, regulators, and financial service providers on the need for inclusive financial regulations, products and services. This includes developing strategies to inform gender based financial inclusion priorities; and
 - iv. learning and capacity building with financial service providers and regulators. This includes using data and investment learnings to strengthen industry trainings, guidance, and identify service gaps with an aim to encourage informed regulations and tailored products and services.

- The SHIFT program is:
 - i. supporting over 2.4 million beneficiaries to access financial services, including over 932,000 women;
 - ii. leveraging over \$5.7 million in private sector investment to support digital Fintech innovations across ASEAN's emerging markets;
 - iii. producing data and analysis on financial inclusion in CLMV, customer journey analysis in Cambodia and Laos, thematic (regional) research on women and remittances, youth and enterprise;
 - iv. works regionally through the ASEAN Working Committee on Financial Inclusion and the ASEAN Working Committee on Payment and Settlement Systems to promote financial inclusion, consumer protection and financial education;
 - v. works bi-laterally with government stakeholders and financial service providers to deliver regional work plans, including financial inclusion strategies/roadmaps, financial literacy, and women's economic participation; and
 - vi. supporting gender sensitive financial product development with financial service providers in Myanmar through a gender-equality self-assessment tool, product development trainings and investment in viable results.

CANADA

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

Canada recognizes the importance of fostering a conducive environment for FinTech innovation and competition to promote access to financial products and services. In this regard, the federal and provincial governments have recently made a number of regulatory and policy changes. Notable ones include the following:

1. In February 2018, the Government of Canada announced a review into the merits of open banking. At its core, open banking is about empowering consumers to share their financial data between their financial institution and other third party providers through secure data sharing platforms. This in turn enables financial service providers to offer more tailored products and services, on a more competitive and innovative basis. Open banking also has the potential to provide consumers with greater transparency on the products and services offered by financial institutions, thus allowing them to make more informed decisions, and makes it easier for consumers to move and manage their money. Consultations are currently underway to learn more about how Canadians feel about open banking. Subject to findings from the consultation, the Government would assess the best potential ways to move ahead with open banking, with the highest regard for consumer privacy, security and financial stability.
2. In February 2018, the Government of Canada introduced amendments to the Bank Act (and related legislation) to expand the scope of technology-related activities that banks can participate in. These changes provide greater flexibility for such firms to enter into new arrangements with third parties, such as FinTech firms, broadening the availability of financial products and services to consumers.
3. In 2017, the Canadian Securities Administrators³¹ (CSA) launched its Regulatory Sandbox initiative. Its aim is to facilitate businesses with innovative technology-focused models³² whose activities trigger the application of securities laws to offer innovative products and services across Canada, while ensuring appropriate investor protection. Through its sandbox, the CSA considers applications, including for time-limited registrations and exemptive relief, on a co-ordinated and flexible basis to provide a harmonized approach across Canada for admissible start-ups or incumbents, while providing flexibility and rapidity in the treatment of registration and other applications.
4. Recognizing that digital identification would reduce the costs of on-boarding new customers for service providers, and ultimately reduce the costs of switching for consumers, Finance Canada's Revised Anti-money laundering/countering the financing of terrorism (AML/CFT) regulations repealed the prohibition on the use of scanned or

³¹ CSA comprises of the securities regulators of Canada's provincial governments.

³² These models range from online platforms (such as crowdfunding portals, marketplace lenders and angel investor networks) to those using artificial intelligence for trades or recommendations, ventures based on cryptocurrency or distributed-ledger technology and technology service providers to the securities industry.

photocopied documents and allowed for an "authentic, valid and current" document. The proposed amendments would also allow firms who must report to the Government under the AML/CFT regime to rely on identification performed by third-parties, paving the way for new digital authentication services. In addition, the amendments to the Bank Act will expand the scope of services that banks and similar institutions can provide to include identification, authentication and verification services.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

While Canada has achieved a high degree of financial inclusion,³³ the Government of Canada is putting continuous efforts into consumer protection and financial education. Notable ones include the following:

1. In 2019, the Financial Consumer Agency of Canada (FCAC)³⁴ introduced a code of conduct to guide banks in delivering services to help meet senior's banking needs. This is important because seniors represent a large share of Canada's population – about 17% of Canadians were aged 65 or older in 2018. Moreover, a growing body of evidence indicates that seniors experience unique challenges related to financial decision-making. In order to develop the code of conduct, the FCAC worked with various stakeholders to identify the issues and challenges seniors face in banking. Now in place, the FCAC will also supervise compliance with the code of conduct and promote consumer awareness.
2. In 2018, the Government introduced the new Financial Consumer Protection Framework to strengthen consumers' rights and interests when dealing with their banks, and to strengthen the tools available to the FCAC to protect consumers. The new Framework consolidates existing consumer protection rules and includes over sixty new or enhanced measures to protect bank customers. Examples include new prohibitions on providing misleading information to consumers, exerting undue pressure on consumers when selling them products or services and taking advantage of consumers. They also include new requirements that banks consider consumers' financial needs and circumstances when selling products or services, record and report consumer complaints (including to the Commissioner of the FCAC); refund a consumer when a charge or penalty was incorrectly imposed; as well as increased maximum administrative monetary penalties and public naming of institutions who break the rules. Legislation of this framework received Royal Assent in December 2018.
3. In 2018, the FCAC co-hosted the "National Research Symposium on Financial Literacy" in partnership with the Rotman School of Business at the University of Toronto. This event brought together Canadian and international thought leaders to share evidence on financial literacy, including sessions related to financial inclusion and closing the gap through digitalization.³⁵ Content included discussion and presentations on:

³³ The proportion of Canadians who are "banked" is very high, with 99.7% of Canadians having an account at a financial institution in 2017.

³⁴ The Financial Consumer Agency of Canada ensures federally regulated financial entities comply with consumer protection measures, promotes financial education and raises consumers' awareness of their rights and responsibilities.

³⁵ Video for all presentations is available at: <https://www.canada.ca/en/financial-consumer-agency/programs/research/post-symposium-research-report-financial-well-being-canadians.html#toc0>

- Innovative and evidence-based approaches to educate and empower consumers to make informed financial decisions.
 - How innovations in financial services can be used to benefit or hinder financial inclusion (e.g. by targeting products in a manner that is optimal for profits but suboptimal for society).
 - The increasing accessibility to credit via online lending businesses, which could trap individuals into high-interest loans masked by new technology.
 - The proliferation of credit cards reward programs, which may benefit consumers who pay their balances in full every month but penalize those who do not.
 - Factors effecting savings decisions, such sub-optimal decisions due to service or product complexity which is difficult to navigate or the ease of accessibility to online brokerage accounts which can increase the likelihood of frequency of trading, hurting long-term returns.
 - The implications of the migration of financial institutions to digital channels for Indigenous, rural and older Canadians who have far lower rates of internet and smartphone use.
4. In 2015, the FCAC launched a National Strategy for Financial Literacy – called “Count me in, Canada” – to help Canadians manage money and debt wisely, plan and save for the future and prevent and protect against fraud and financial abuse. The FCAC launched a number of innovative initiatives to reach Canadians under this strategy, including the use of mobile and online technologies. For example, the FCAC used the Carrot Rewards Mobile App to strengthen the budgeting knowledge and confidence of non-budgeters. The results of the pilot were overwhelmingly positive and were shown to have a sustained improvement in users’ budgeting confidence and budgeting behaviour. In addition, the FCAC partnered with a company to create an incentive-based pilot program aimed at the workplace, called the MoneyFit Challenge. This free online platform with turnkey promotional resources allows employers to provide financial education to their employees, who earn points for the chance to win prizes (gift cards) by completing learning activities about budgeting, saving, borrowing, debt and financial consumer rights and responsibilities. For more details please refer to Canada’s case study.
5. Ongoing progress on the strategy is measured using a range of evaluation tools supported by research, for example, on effective methods of delivering initiatives to Canadians. For example, the Canadian Financial Capability Survey is conducted every five years (2009, 2014 and 2019) and helps to identify goals and is a key reference point for measuring change in Canadians’ financial literacy over time. Canada has also assessed financial literacy levels among adults with international benchmarks by participating in the OECD’s 2015 international survey. Financial literacy among Canada’s young people is measured through the OECD’s Programme for International Student Assessment, which surveys 15-year-olds and provides a basis for measuring progress and identifying new areas of focus.

What are your economy’s capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

While a high degree of financial inclusion has been achieved in Canada, there could be benefits from lessons learned by international peers on the development and use of Fintech. In particular, Fintech could be used to strengthen consumer protection and financial education, which in turn can help guard and improve Canadian’s financial well-being. At the

same time, technological advancements pose new challenges and risks that must be managed with up-to-date policies and regulations. Canada values the opportunities to engage internationally and with regional bodies to develop and use Fintech to promote financial inclusion, consumer protection and financial education and is keen to learn best practices from others.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Canada is pleased to share experiences and lessons acquired from domestic policy design and implementation with other economies. As noted above, Canada recently conducted a National Research Symposium on Financial Literacy that touched on a number of issues relevant to Fintech and financial inclusion, consumer protection and financial education. This event included presentations and discussions by leading international experts that can be accessed at <https://www.canada.ca/en/financial-consumer-agency/programs/research/post-symposium-research-report-financial-well-being-canadians.html#toc0>.

CHILE

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

According to the 2019 Financial Inclusion Report, elaborated by the Superintendence of Banks and Financial Institutions of Chile (SBIF),³⁶ in the last several years, Chile has made significant improvements with regards to financial inclusion issues. Digital channels, like the ones based on the internet or Point of Sale (POS), have gained great relevance. The same occurs regarding financial digital services and other instruments.

Law No. 20,590 of Means of Payment (2016) authorizes the issuance and operation of means of payment with provision of funds or any other similar system (prepaid cards) by non-banking companies. That law, also enabled the Central Bank to issue new regulations that make it possible to apply the 4 party means of payment system in Chile. These regulations are proportional since they allow for the existence of third party providers for means of payment acquirers, which are subject to a lighter regulatory burden, thus enabling the participation of Fintech as payment routes.

Another important measure on this area, is the announcement of the Ministry of Finance of a task force created with the main participant of the means of payment sector in order to effectively implement a 4 party model in Chile, enabling increased competition on the sector and increases coverage of both issuers and acquirers on this market.

The Central Bank (BCC) Strategic Plan for the period 2018-2022 focuses on Technology. Consequently, it has created a “Tech Observatory”, which aims to be a relevant and active player in searching and analysing new technologies, detecting opportunities and potential

³⁶ As of June 1, 2019, the SBIF is now part of the Financial Market Commission (CMF).

impacts in the financial sector and other areas. Likewise, the Strategic Plan 2018-2022 contemplates experimental instances, like for example a TechLab and FinLab. The TechLab seeks to adopt emerging technologies that are relevant to maintain the quality and availability of the services provided by the Central Bank. The FinLab seeks to enhance the regulatory framework in a timely manner in order to advance in those areas that represent an opportunity to strengthen the financial system and mitigate risks should some of the new technologies become more widespread in the financial industry.

BancoEstado, Chile's only state-owned commercial Bank, has a mandate to deliver financial products and services to the entire population and to contribute to a more inclusive and equal economy. The bank has played an important role in financial inclusion, offering innovative products through channels that expand people's access to financial services – including CuentaRUT³⁷ (an easily accessible payment account for all), as well as other services, credit and insurance products. Moreover, the bank has recognized the importance of digital services to boost efficiency, and launched BancoEstado's mobile app, PagoRUT³⁸ – used by 1.8 million clients and among the top 10 most downloaded apps in the economy, which has been nationally recognized for its role in financially including a significant number of Chileans and enabling them to make electronic payments. In 2017, the bank also developed the Compraqui (Buy here) network,³⁹ which allows small business owners to seamlessly accept electronic and card payments.

In February 2019, the Financial Market Commission (CMF) issued a White Paper, which focuses on the relevance of having a regulatory framework for Crowdfunding and Related Services in Chile. The paper also contains general guidelines that Chile should consider to design such a framework. Therefore, the CMF elaborated a proposal to regulate the crowdfunding industry and related services, making a series of recommendations, which are structured under different pillars.

The development of this document took into consideration the experiences of foreign jurisdictions regarding the regulation of Crowdfunding and Fintech, and the principles and recommendations issued by international organizations. Additionally, the process took into account the experiences and problems faced by the financial industry in Chile, the opinions and points of view of Fintech companies, law firms, academics and other actors of the local capital market. Moreover, in November 2018, the CMF held a public discussion seminar with relevant actors in the domestic and international context and established advisory panels with various market players. Finally, the document received comments and observations of the Inter-American Development Bank.

Besides this, the CMF has signed collaboration agreements with foreign authorities to facilitate the exchange of information, experiences, and knowledge related to the development of the Fintech ecosystem in other jurisdictions.

The idea is to receive comments and additional inputs so that this White Paper can serve as a starting point that allows Chile to move towards a regulatory design that encourages innovation and greater inclusion in the provision of financial services. Those above must go

³⁷ During 2018, over one million new clients opened a CuentaRUT account. In the same year, the Bank started replacing old CuentaRUT cards for new ones with better and safer technology, and allowing clients to make international transactions.

³⁸ Mobile App that allows making electronic payments using smartphones.

³⁹ Over 11.500 small business.

hand-by-hand with adequate protection to investors and users of these services and financial integrity and stability, without generating unnecessary obstacles to the development of the sector.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

The Advisory Commission for Financial Inclusion. Maybe one of the most important developments regarding financial inclusion in recent years in Chile is the creation, in 2014, of the “Advisory Commission for Financial Inclusion.”⁴⁰ The Commission is a permanent institutional body that is designed to confront the challenges of financial inclusion issues. Its mission is to be an advisory body for the President in order to design and implement measures and any other activities aimed to enhance financial inclusion in Chile.

The National Financial Education Strategy. As a result, in 2016, the President launched a National Financial Education Strategy. This initiative focuses on students and women as priority groups, and comprises seventy-six actions, which aim to engage public, private and civil society actors to promote a better understanding of concepts, financial and social security products. The Strategy is aligned with recommendations made by the OECD, the World Bank and Chile’s commitments before the G20.

The Strategy’s long-term vision is to educate Chilean citizens so that they can understand and manage financial and social security concepts and products, being able to make decisions to improve their well-being.

Its mission is to promote a better comprehension of the basic concepts and financial -and pension- products by citizens; to foster the development of skills in order to increase personal, family and community well-being; and enhance people’s knowledge about their rights on financial issues.

The Month of Financial Education. During the last 6 years, the Ministry of Finance, the Central Bank, the Financial Market Commission (CMF), the Superintendence of Pension Funds, the National Consumers Service and ChileCompra have commemorated the Month of Financial Education in October. The objective is to create awareness on the importance of financial education for personal well-being.

The role of BancoEstado. BancoEstado is the only state-owned commercial bank, which operates independently as a regulated commercial institution. It was established more than 160 years ago and its role is to deliver financial services and products to all people and companies. It has played a leading role in terms of financial education and financial inclusion, providing unique and innovative services and products. Some of its accomplishments are CuentaRUT, CajaVecina,⁴¹ Compraquí and many other measures

⁴⁰ The Commission was created through the issuance of Decree N° 954, of 2014, of the Ministry of Finance. It is made up of the Ministers of Finance, Social Development, Economy, Education and Labor. Different institutions act as permanent guests and it also counts with the permanent advice of the Central Bank of Chile.

⁴¹ It constitutes an important part of the infrastructure needed to favour the use and access to transactional accounts in Chile. It is the economy’s largest network of retailers acting as correspondents. It comprises over 20.000 points of attention and provides transactional services that include money transfers, deposits, the transfer of funds between accounts and payments of various kinds.

targeted to specific segment of the populations, like for example women and micro, small and medium companies.

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Legal and Regulatory Framework. The legal framework applicable to financial services provided in Chile comprise a set of laws that contain norms maintained, ordered, and structured under a traditional model of financial services.

The aforementioned has as a consequence, among other things, that those who want to provide a service that is not expressly regulated as such in the law, have no legal certainty as to which are the rules that are applicable to the service they will provide and, therefore, if with their performance they could be breaking the law. This also entails that supervisors have reasonable doubts as to whether or not to prosecute and sanction – administrative and/or criminal sanctions – these activities. Finally, customers or users may have a misperception regarding the quality of regulated services provider and, therefore, the legal protection and remedies applicable.

Thus, there is a need to build a comprehensive, flexible, harmonized and modern regulatory and legal framework that fosters technological innovation and the development of new business models. This will boost investment and access to financing, benefiting entrepreneurs and MSMEs, and consequently, facilitating digital transformation and financial inclusion. The main challenge is to regulate without imposing excessive and unnecessary barriers (overregulating), favoring flexibility and the adaptability of the markets and economic agents in order to encourage new business models. The aforementioned could be attained by building a framework that is neutral to the use of technology; recognizes the disaggregation of value chains; is proportional; and ensures flexibility and legal certainty.

Fintech business models and services are not typified in our current regulatory and legal framework. This provides an opportunity to learn from the experience and best practices of other economies and give appropriate policy responses according to Chile's particular circumstances. The challenge is to move towards a regulatory design that encourages innovation and greater inclusion in the provision of financial services and at the same time adequately protects investors and users of these services, as well as the financial integrity and stability, without creating unnecessary obstacles, thus fostering innovation.

There is also a challenge on how to regulate, among other areas, electronic payments, crowdfunding and related services, virtual assets and promote open banking. This also requires providing more effective tools and enhancing the capacities of regulatory and enforcing agencies to effectively supervise and enforce laws and regulations.

Due to the above, the White Paper issued by the CMF represents a significant step forward in this matter, and it could be the starting point from which to contribute and develop an appropriate legal and regulatory framework regarding Fintech and financial inclusion related matters.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Chile has made sustained progress in terms of access and use of financial products and services. This is confirmed by the SBIF (now CMF) 2019 Financial Inclusion Report. However, until now, the Government has not developed any concrete and effective public policy measures regarding FinTech.

However, Chile can contribute to capacity building in developing and using FinTech to promote financial inclusion, consumer protection and financial education by sharing BancoEstado's and the Central Bank's approaches to FinTech products and services.

HONG KONG, CHINA

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

The Hong Kong Monetary Authority ("HKMA") encourages the banking industry to put the spirit of financial inclusion into practice when developing their banking networks and offering banking services, which are essential in promoting sustainable and inclusive growth. The HKMA has been actively engaging various stakeholders to gather comments and feedback about their access to banking services, and where necessary, facilitate discussion of the related matters among the banking industry and encourage banks to take enhancement measures.

Encouraged by the HKMA, banks in Hong Kong, China have flexibly and pragmatically utilised new technologies and operation modes, for example "mobile branches" and "video teller machines", to supplement the existing banking network in order to address the needs for basic banking services of underprivileged and vulnerable individuals and those living in remote areas.

Meanwhile, the regulatory regime for stored value facilities ("SVFs") and retail payment systems has been in place since 2015. This contributes to the stability and effective working of the payment systems in Hong Kong, China, and in turn further foster development and innovation in the area. We note that, apart from facilitating local payment services, some SVF issuers also provide cross-border remittance services covering major jurisdictions in the region. This is particularly useful for customers such as foreign domestic helpers and migrant workers who prefer lower cost remittance services.

In recent years, the HKMA has introduced a series of measures to support the sustainable development of the fintech industry, for example, the establishment of a Fintech Facilitation Office to foster the healthy development of the fintech ecosystem in Hong Kong, China. In 2017, the HKMA announced that in order to move to the new "Smart Banking" era, it would take the lead and launch seven initiatives, including Virtual Banking, Faster Payment System ("FPS"), Fintech Supervisory Sandbox, closer cross-border collaboration (e.g. development

of a distributed ledger technology (“DLT”) platform to digitalise trade and trade finance. Some of these initiatives are described below.

Virtual banking

- In May 2018, the HKMA issued the revised “Guideline on Authorization of Virtual Banks” following an industry consultation on the subject.
- From March to May 2019, the HKMA has granted eight virtual bank licences to the institutions, of which the owners / controllers include banks, non-bank financial institutions and non-financial technology companies. The eight virtual banks intend to launch services in around 6-9 months after authorization.
- While the HKMA will closely monitor the operations of virtual banks after they have commenced business, including customers’ reactions to the new modes of delivery of financial services as well as the impact, if any, of these virtual banks on the banking sector in general, it expects to be able to conduct a comprehensive assessment of the situation about one year after the first virtual bank has launched its service.

FPS

- The launch of the FPS in September 2018 signifies that the payment landscape in Hong Kong, China has entered a new era. It is a unique system in the world in that it supports multi-currency instant payments on a round-the-clock basis, with full connectivity between banks and SVFs. The public can easily transfer funds 24/7 across different banks or SVFs with the use of mobile phone number or email address as account proxies. The FPS facilitates innovation, brings more efficient and user-friendly services to the public, and promotes the adoption of e-payment in Hong Kong, China.
- A total of 22 banks (including most retail banks) and 10 SVFs in Hong Kong, China have participated in the system to provide real-time payment services and/or addressing service for their customers. As of 30 June 2019, FPS had recorded 3 million registrations and processed 19 million transactions involving an aggregate amount of HKD 373 billion and RMB 10 billion. The volume of transactions going through the FPS has been increasing steadily, from an average daily turnover of 51 000 transactions worth HKD 1.1 billion and RMB 25 million in October 2018 to 93 000 transactions worth HKD 1.69 billion and RMB 36 million in June 2019. Some of the departments of the Government of Hong Kong, China have started using the FPS to collect bill payments with the use of QR code. In addition, some other departments are also examining the feasibility of accepting payments through the FPS at their shroff counters on a pilot basis.

DLT platform to digitise trade and trade finance

- Riding on the earlier success of the trade finance proof-of-concept work led by the HKMA, seven banks in Hong Kong, China decided to commercialise the prototype into production with a view to digitising paper-based documents and automating the trade finance process to reduce errors and risks of fraud. Under the facilitation of the HKMA, eTradeConnect, a blockchain-based trade finance platform fully funded by a consortium of 12 major banks in Hong Kong, China, went live in September 2018 and was officially launched in October 2018. The development of eTradeConnect has entered the next phase. Its operator is improving the functionalities of the platform based on the feedback collected from banks and other users.

- It is expected that the development of such DLT trade finance platforms can achieve:
 - Improvements in financial inclusion in terms of access to trade finance by the usually underserved entities (e.g. micro, small and medium-sized enterprises (“MSMEs”)) through enhanced credibility of trade processes.
 - Wider adoption of digital trade finance platforms, leveraging DLT, to enhance efficiency and transparency of trade processes and hence open up new horizons for global trade finance at lower risk to banks, therefore enhancing banking/financial stability.
 - Coordinated development of digital trade finance platforms to enhance their interoperability so as to avoid market fragmentation and maximise the benefits of digitalising trade processes.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

Consumer protection issues associated with fintech

Virtual banking

- In respect of consumer protection, virtual banks, like other types of authorized institutions, are required to observe the relevant standards currently set out in the Code of Banking Practice, also including those on “fair treatment of customers”.
- Further, virtual banks are expected to play an active role in promoting financial inclusion. For example, virtual banks will target the retail public and SMEs and are not allowed to impose any minimum account balance requirement or low-balance fees on their customers, which may help promote financial inclusion in Hong Kong, China.

Open APIs

- To promote the development and use of Open APIs, the HKMA has developed a document on “Open API Framework for the Hong Kong Banking Sector”. In order to strike a balance between fostering innovation and at the same time ensuring customer protection, the Open API Framework also lays down, among others, some guiding principles in respect of banks’ third-party service provider (“TSP”) governance process and consumer protection principles.
- It is expected that banks and TSPs would be under partnership arrangement when providing Open APIs. In addition, banks are expected to have in place on-boarding checks and ongoing monitoring on the TSPs in accordance with the Common Baseline that will be worked out by the industry and is expected to contain consumer protection measures and risk management controls to protect the interests of bank customers.
- The Framework document also stipulates the principle that a customer should not be responsible for any direct loss suffered by him/her as a result of unauthorised transactions conducted through his/her account attributable to the services offered by TSP using bank’s Open API unless he/she acts fraudulently or with gross negligence. Banks and TSPs should define and agree a clear liability and settlement arrangement to protect customers in the cases of loss, and communicate clearly to customers.

Online financing

- To facilitate banks to adopt new credit risk management techniques and practices enabled by innovative technology such as data analytics, the HKMA has issued a circular in May 2018 to allow banks to carve out a portion of their personal lending portfolio in respect of which departure from conventional lending practices will be permitted (e.g. address and income proof).
- For consumer protection purpose, the HKMA requires banks that intend to launch these online financing initiatives to undertake proactive and enhanced steps to ensure that their lending business is being conducted in a responsible manner and that borrowers understand the key features, terms and conditions of the products and their repayment obligations.
- The HKMA expects banks to follow the requirements as set out in the Code of Banking Practice (including those relating to proper and timely disclosure of key product features), and to further promote responsible borrowing by customers. Banks should provide customers with adequate information and adequate chance to consider the implications of their borrowing behaviour in order to enable them to make informed borrowing decisions.

Procedures for Handling Mis-transfer of funds

- As the high speed and convenience offered by digital financial services (e.g. real-time payment to payees using mobile phone number) may increase the chance of incorrect fund transfer made by customers, the HKMA issued a circular in Q1 2019 to require all banks to implement the standardised procedures to follow up these cases.
- The procedures are applicable to cases where bank customers or users of Stored Value Facility (“SVF”) have mis-transferred funds to unintended parties via any fund transfer channels, including ATMs, phone banking, online banking, mobile banking and bank branches.

Financial education issues associated with fintech

The HKMA aims at educating the public to be smart and responsible financial consumers in its education & publicity work. In light of fintech development, the HKMA has introduced basic Fintech concepts such as sandbox, blockchain, open API, virtual banks, to the public via its Facebook. When there are new market infrastructures, e.g. the launch of the FPS in 2018, and supervisory regimes on financial services (e.g. the launch of the licensing regime on stored value facilities in 2016), the HKMA conducts designated campaigns to remind the public of the features and issues to note when using such new services. Moreover, in form of sustaining cybersecurity campaigns, the HKMA promotes security tips on using different digital financial services and reinforce the public awareness of the importance of proper safeguard of their account login and personal information.

What are your economy’s capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Fintech talent is a capacity building need with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education. In response, the HKMA launched FCAS in December 2016 in collaboration with the Hong Kong Applied

Science and Technology Research Institute (“ASTRI”) to expand the fintech talent pool in Hong Kong, China.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

With respect to talent development, the HKMA launched FCAS in December 2016 in collaboration with the ASTRI to expand the fintech talent pool in Hong Kong, China. Students worked full-time on fintech-related projects for six months or one year at the HKMA or the 12 participating banks. The HKMA and ASTRI provided regulatory briefings and technology training to the interns respectively.

In January 2018, the HKMA upgraded FCAS to FCAS 2.0 to meet growing industry demands. The existing gap year full-time placement programme was enhanced, with the number of participating banks increased to 20. Additionally an entrepreneurship summer boot camp in the University of Chicago, a Shenzhen summer internship programme, and a full-time graduate programme were introduced. In 2018/2019, over 200 students benefited from the four programmes under FCAS 2.0.

For the gap year full-time placement programme, in 2019/2020, the HKMA, 18 banks and three SVF operators will offer around 175 positions to students.

INDONESIA

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

- **Providing guidance.** Bank Indonesia (BI – central bank) and Otoritas Jasa Keuangan (OJK – financial service authority) play strategic role to provide fintech guidances to the market players, both new and incumbent players. These guidances also aim to encourage the usage of Fintech in promoting access to financial products and services.
 - a. Bank Indonesia’s dual policy approach to support access to financial products and services. Dual policy approach implemented by Bank Indonesia includes financial inclusion and electronification. Currently the unbanked people in Indonesia are subject to financial inclusion through electronification via e-money and Digital Financial Services (DFS) agents. Once these unbanked people are accustomed to perform cashless transactions and able to maintain the amount in their electronic money (at certain amount), they will be asked to open saving account at a bank (through a program called Laku Pandai). Thus, over time, these unbanked people will become bankable and are subsequently expected to utilize other financial service products through bank and insurance. On the other hand, the banked people are also encouraged to utilize electronic payments. This is carried out through the National Non Cash Movement initiative that is supported by G to P, P to G, and P to P programs.

- b. Bank Indonesia has also implemented **Digital Financial Service** (DFS) as an entry point to formal financial services. It aims to expand financial access to the public with the use of technology and network of agents. DFS is expected to be a solution in providing access to finance for those who live in remote area. To support the DFS, Bank Indonesia has amended Bank Indonesia regulation concerning electronic money.
- **Setting strategic initiatives.** Indonesian authorities have set **Strategic Initiatives** to address the policy gaps, barriers, and challenges related to the digital economy. There are six main activities in the initiatives:
 - a. Establishing regulatory sandboxes to encourage digital finance Innovations
Through regulatory sandbox, Indonesian authorities review Digital Finance innovation business models and business processes, observe the business models and collaborate the regulatory sandbox process with expert panels and other related institutions. In addition, regulatory sandboxes help authorities ensures that standards are met and reliable services are delivered.
 - b. Developing talent
Authorities acknowledge the importance of talent development to promote digital finance innovation. In this regard, authorities have taken some steps, e.g. identifying talents needed in digital finance innovation, developing digital finance talent framework, conducting gap analysis as well as training and skill development.
 - c. Utilizing OJK's fintech center (OJK Infinity)
As a financial service authority, Otoritas Jasa Keuangan (OJK) has established OJK Fintech Center (OJK Infinity) as a center of excellence for the development of digital financial innovation. Innovations are expected to be cutting edge, safe, reliable, and beneficial to the society as well as to the economy. There are three main functions of the OJK Infinity:
 1. to facilitate sandboxes
 2. to provide innovation center for the development of digital finance innovation and overall digital economic ecosystem;
 3. to serve as an education center for financial service providers and consumers. Consumers will be able to increase their awareness and knowledge on the development of digital financial innovations. Events take place in the form of seminars, workshops, guest lectures, training, etc.
 - d. Developing Regtech framework and guideline
 1. Conducting benchmarking studies;
 2. Discussing framework concepts;
 3. Expanding the discussion with key stakeholders and experts.
 - e. Collaborating and coordinating with key stakeholders for digital finance innovation eco system development
To engage with cross border services, the authorities establish cooperation with various cross border authorities, including agreements regarding fintech supervision and development. Regular meeting of authorities is also required to exchange views and issues.

f. Improving digital literacy

Recognizing the importance of digital literacy/education, Indonesian authorities are gauging digital financial awareness in Indonesia. For example, to know how familiar the society is with digital financial products and services, OJK distributed an open-ended questionnaire which covers infrastructures, products, and usage.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

Indonesian authorities has issued several regulations to address consumer protection and financial education related issues as below:

- Regulatory framework for Fintech: OJK Regulation Number 13 Year 2018
- Regulatory sandboxes: OJK Regulation Number 13 Year 2018
- Digital Banking: OJK Regulation Number 12 Year 2018
- Crowdfunding platforms: OJK Regulation Number 37 Year 2018
- P2P lending platform: OJK Regulation Number 77 Year 2016

In addition to those regulations, consumer protection can be done by creating a good ecosystem, as well as enhancing transparency, education and assistance to the consumers, especially to consumers with low education.

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Indonesia authorities are trying to accelerate financial inclusion level. In this regard, authorities use, among others, information technology and fintech to boost the financial inclusion level.

Therefore, the capacity building needs in this context revolves around the establishment of a fintech ecosystem, Regulatory Technology (Regtech), Supervisory Technology (Suptech), the regulatory sandbox process, and the management of Big Data.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

- **Sharing experience.** OJK and BI launched a program namely "Laku Pandai" in 2015, a branchless banking service for financial inclusion. Given Indonesia's vast archipelagic geography, Indonesia's experience in the preparation and also implementation of the program would provide valuable lessons learnt for members. Thus, we welcome the opportunity to share the experience with other members.
- **High level discussion.** Indonesian authorities also conduct high level discussions on Supervisory Technology (Suptech) and its related aspects. Given the relatively new nature of the issue, we view that discussion among members on that issue would significantly contribute to the development of Suptech within the region.

JAPAN

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

See Case Study Response III

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

See Case Study Response III

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

N/A

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Sharing Japan's efforts through publication of "Financial Services Policy: Assessments and Strategic Priorities" which summarizes financial services policies and its achievements, active participation in relevant international conferences, dialogues with authorities, and seminars/fellowship program offered by initiatives including the Global Financial Partnership Center, or GLOPAC.

MALAYSIA

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

Strategies/initiatives by Bank Negara Malaysia to advance financial inclusion through fintech and e-platforms include:

a. Coordinating regulatory measures

- The Bank through the Financial Technology Enabler Group (FTEG) continues to engage directly with both local and international fintech community to deepen understanding of the fintech landscape and uncover opportunities for greater strategic collaboration. FTEG work closely with other key agencies such as the Malaysia Digital Economy Corporation (MDEC) and the Securities Commission Malaysia (SC). For example, regulation of digital assets in Malaysia is a joint collaborative effort by both the central bank and the SC. Similarly, for fintech ideas or solutions

that are in the early stage and not ready to be tested in the Bank's Fintech Regulatory Sandbox (Sandbox) are generally referred to MDEC to be assisted and nurtured. Other collaborative initiatives, such as the National Digital Identity System is also in the pipeline.

b. Undertaking outreach and collaboration with key stakeholders

- The Bank organised Fintech Hacks, a nationwide campaign in which the public was invited to provide views and opinions on the pain points or areas that can be improved in the delivery and consumption of financial services. Through the initiatives, the Bank had also reached out to 11 universities across Malaysia to engage with students and build awareness.
- The Bank conducted series of regulatory bootcamps to help educate and engage with fintech companies and individuals on the applicable laws and regulations administered by the Bank.
- The Bank hosted MyFintech Week in June 2019 that brings together industry movers and shakers in the fields of finance and technology for meaningful exchanges to shape the future of financial services. The event aims to promote growth and diversity in the fintech ecosystem, spur digital transformation of financial institutions, drive responsible innovation in fintech, and elevate public acceptance of fintech.

c. Operating a regulatory Sandbox

- The Sandbox enables fintech companies and financial institutions to test innovative products, services and business models. The Sandbox also serves to support an evidence-based approach in developing appropriate regulations for innovation in financial services. These strategies have yielded positive inclusion outcomes for consumers, including higher access, more responsible usage and at lower costs. The approved solutions under the Sandbox include digital money service businesses, insurance aggregator platforms, biometric authentication and secured chat platform for banking transactions.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

The primary function of Bank Negara Malaysia in promoting a sound, progressive and inclusive financial sector is articulated in the Central Bank of Malaysia Act 2009. To achieve this, Bank Negara Malaysia has put in place a comprehensive consumer protection framework that covers financial education, fair treatment of consumers, avenues for redress, distress management and rehabilitation as well as advisory services. These include:

- a. The Credit Counselling and Debt Management Agency (AKPK), is an agency set up by the Bank in April 2006 to help individuals take control of their financial situation and gain peace of mind that comes from the wise use of credit. Financial literacy has been the focus of the AKPK since its inception, providing financial education and financial counselling on managing personal finances while helping borrowers restructure their repayments under debt management programme.

- Financial counseling and advice: The objective is to equip individuals with the essential ability to manage money wisely, so that they spend within their means and achieve financial goals.
 - Debt Management Programme: A personalised programme to provide eligible borrowers with solutions for their financial situation.
 - Financial literacy: AKPK's financial education modules are designed to address the different needs and circumstances that arise at different life stages - from young adults in tertiary education, entering the workforce and starting a family, to senior citizens in their retirement. Financial education programmes also aim to address the specific challenges that are faced by more vulnerable groups in the bottom 40% and middle 40% income groups. Key topics covered include the importance of savings and how to save, setting financial goals, selecting financial products that match needs and goals, budgeting, basic borrowing and debt management.
- b. As financial transactions increasingly transacted online, the protection of customer information against theft and misuse become critical in maintaining public confidence in the financial system. In October 2017, the Bank published the standards on the Management of Customer Information and Permitted Disclosures. The standards address requirements for financial service providers to institute strict policies and procedures to safeguard the security and confidentiality of customer information throughout the information life-cycle from collection to disposal.

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

While there are opportunities to further leverage on fintech to promote financial inclusion, consumer protection and financial education, regulators would need to build the capability to harness the benefits as well as deal with the associated risks. Key fintech areas of relevance include:

- a. Strengthen data analytics of FIs to facilitate them to better understand profiles and behaviour of customers to enable more targeted and innovative product development and outreach.
- b. Digitising the businesses and value-chain financing to facilitate outreach of financial services to underserved communities.
- c. Embed digital literacy lessons into financial education policies and programme to ensure consumers' interests are protected.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Apart from sharing of the Bank's experiences, we view that we would benefit from capacity building by APEC economies that are advanced in this field.

APEC may also consider collaborating with the Alliance for Financial Inclusion (AFI), a powerful network of central banks, policymakers and other financial regulatory institutions from more than 90 economies, based in Malaysia. AFI empowers policymakers to increase access and usage of quality financial services for the underserved, through formulation, implementation and global advocacy of sustainable and inclusive policies.

MEXICO

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

In 2018, the Law to Regulate Financial Technology Institutions (FinTech Law) established the legal framework by which every institution interested in offering financial services based on the use of technology must abide by. This Law has, among others, the objective of promoting a more inclusive financial system by setting the rules that provides legal for two new figures:

1. **Collective Financing Institutions (Crowdfunding institutions):** are the companies that connect projects or people in need of financing with persons looking to invest resources for an interest rate.
2. **Electronic Payment Funds Institutions (e-money wallets) - IFPE:** provide the issuance of digital money that is stored in a virtual wallet, which is then used to make payments and electronic transactions. The funds in the wallet cannot pay interest to the holder as its use is intended for payments only, not a means for investment or maintain money's value.

The secondary regulation derived from the FinTech Law is almost complete, with the most important rules already issued (secondary regulation for the operation of both the IFC and the IFPE).

Additionally, the government of Mexico is working on revising previous efforts on financial inclusion, through mainly assessing the effectiveness and areas of improvement of the National Policy for Financial Inclusion issued on 2016. As part of these areas of improvement we are developing and agenda for the promotion of the FinTech sector. Though not completely finished, some preliminary pillars of this agenda are:

- Establish programs with development banks focused on fostering development of FinTech companies.
- Communicate the new regulatory framework derived from the FinTech Law.
- Develop programs supporting the development of FinTech companies that deepen financial inclusion.
- Promote hackathons focused on financial inclusion.
- Foster the use of Regulatory Sandbox for financial inclusion.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

On January 8th, the Bank of Mexico and the Ministry of Finance and Public Credit presented a program to deepen the financial sector and with it increase financial inclusion. Along with other measures, it was announced the creation of a digital payments platform (*Cobro Digital – CoDi*), based on the QR code system and the payment infrastructure that is used for interbank transactions managed by the Central Bank (*Sistema de Pagos Electrónicos Interbancarios – SPEI*). This platform is part of a strategy to promote the use of digital

payments as cash remains the most used means of payment (more than 90% of the adult population uses cash to pay for services regardless of the amount).

Three pilots will be carried out to test the platform adoption among the population. Hence relevant authorities will embark on communication efforts to promote not only the use of the platform but also campaigns focusing on financial consumer protection by the National Commission for the Protection and Defense of the Financial Services Users (Condusef). This is to inform the users that any problem with CoDi can be taken to the Commission and solved through its protection and defense mechanisms.

Additionally, the Government of Mexico is currently reviewing past efforts for financial inclusion and one of the main pillars of said revision is financial education. Through this pillar, initiatives on promoting knowledge about the FinTech sector are being developed. For example, we are looking to homologate financial terms through a single definition dictionary to be used by both financial authorities and private sector. This is intended to familiarize the population with the most commonly used terms on FinTech and all the especial terminologies that the sector use (e.g. crowdfunding platform, electronic money, digital wallets, etc.). The aim is to foster usage of digital financial services by increasing trust in them.

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

To enable a FinTech friendly ecosystem in the economy and with it usage of digital financial services, there are some barriers that must be met. First, access to smartphones and high-speed reliable connection is the first step towards building an ecosystem where financial services and products are provided to the whole population. However, telecommunications outreach in Mexico is still unequal. Access to smartphones and broadband internet varies from region to region. Northern regions show higher levels of access to ICT compared to southern areas. This is also true among urban and rural communities since the latter tend to be remote and more difficult to access by any type of transportation and as well as ICTs. Mexican authorities would benefit by knowing what have been strategies used by other economies in terms of increasing access to ICT. However, since this barrier is not properly a policy area under the responsibility of financial authorities (at least this is the case in Mexico) it would be highly helpful to know if there are some actions that financial authorities can undertake in order increase access to ICTs.

Second, a comprehensive digital education strategy is needed. Although the youngest populations are more prone to use technology and adapt to it more easily, there are segments of the population that will struggle with the use of digital devices, for instance, older people. Before expanding financial literacy and understanding FinTech terms, people must understand how to operate a smartphone to be able to use digital financial services and products. Again, since this barrier is not properly a policy area under the responsibility of financial authorities (at least this is the case in Mexico) it would be highly helpful to know if there are some actions that financial authorities can undertake in order increase digital education. A first thought on it is that perhaps there might be some synergies on promoting digital education and financial education but Mexican authorities are unaware about what are specific policy actions.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

With the issuance of the FinTech Law and its secondary regulation, the Government of Mexico can share what works (and what doesn't) in terms of a legal framework to promote FinTech sector. Which barriers have been passed and the legal and technical issues that had to be studied and discussed with the sector.

We can also share the experience in designing and implementing FinTech-specific indicators (e.g. number of companies under the Law, number of innovative projects accepted in the Regulatory Sandbox, etc.), as well as indicators to measure the sector's impact on financial inclusion and financial education.

PAPUA NEW GUINEA

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

1. Introduction

This paper presents the financial sector reforms as of part of the structural reform programme in Papua New Guinea (PNG) which commenced in the mid-1990s and is continuing to the present day to promote and support a market-based economy, with the aim of encouraging greater private sector participation in inclusive growth and development of PNG through public-private partnership (PPP) arrangement.

2. Structural Reforms

Government involvement in all areas of economic development and commercial activities such as agriculture, forestry, mineral, and petroleum, with government-owned monopolies in communication, electricity, and transportation, over-stretched the financial and institutional capacity of the Government, resulting in serious macroeconomic mismanagement with a loss of fiscal policy and monetary policy control, governance breakdown, and depletion of international reserves in the 1990s. As a result, the currency, kina, was devalued and floated in the mid-1990s which commenced the structural reform programmes of PNG.

Further reforms in late-1990s saw the Government divest its controlling interests in financial sector, sea transportation, agriculture, and forestry, while the operating environments for electricity, telecommunication, air transportation, mineral, and petroleum were commercialized to achieve a commercial rate of return but with Government retaining its controlling interest.

In the mid-2000s, the telecommunication sector was liberalized resulting in the introduction of private mobile network providers, followed by the adoption of a new energy sector policy in early 2010s which opened-up power generation and retail segment of energy market to the private sector.

3. Financial Sector Problems and Reforms

Political influence and frequent changes in governors of the Bank of Papua New Guinea (Central Bank) disrupted monetary policy management as well as oversight and regulation of the financial sector. Furthermore, break-down in good management and governance resulted in corrupt practices, flourishing pyramid (ponzi) schemes, mismanagement, and outright fraud resulted in a major Government-owned commercial bank struggling on the verge of insolvency while a large superannuation fund was bankrupted. As a result, there was lack of confidence in the financial sector and economic management, as there were concerns the economy was heading towards a systemic risk leading to a financial sector and economic crisis.

The financial sector reforms in PNG were undertaken in the late 1990s and early 2000s to restore confidence in the financial sector and economic management. The Government introduced four new major legislations to reform the financial sector. These are: the Central Banking Act 2000; Banks and Financial Institutions Act 2000; Superannuation Act 2000; and Life Insurance Act 2000 for the reforms.

The reforms made the Central Bank independent in 2000 with a sole mandate to implement monetary policy to achieve price stability, as well as given more legislative powers to have oversight and set prudential standards and exposure limits for institutions of the financial sector to improve operational performance and set fit-and-proper test requirements for appointment of management and board members to improve governance.

The reforms were crucial to restoring financial sector and economic management. The financial sector is now well capitalized and stable with a low level of non-performing loans, and some of the commercial banks have expanded their operations to other Pacific Island and Asian economies.

4. Financial Inclusion in Papua New Guinea

i. Background

PNG is characterised by low population density, with 85 percent of the 8 million people living in scattered hamlets mostly in rural areas surrounded with rugged terrain. The population depends almost entirely on subsistence agriculture and informal sector activities for low cash income, with limited access to electricity and financial sector products and services for meeting personal or family financial needs and savings. A large proportion of women in this population is financially under-served and illiterate.

Financial inclusion is part of the on-going structural reform programmes of PNG, with the objective integrating these unbanked low income earners to the formal financial sector by

providing them with low-cost and tailor-made financial products and services, to advance inclusive growth and development.

ii. Constraints as Barriers to Accessibility

The constraints that operate to limit accessibility to the formal financial sector are: high capital cost in developing banking service infrastructure supporting accessibility to products and services offered by the financial sector for the 85 percent rural population; lack of education and training in financial management and savings by the informal sector and small-medium-enterprises (SMEs); high bank fees and charges, coupled with lengthy application process, of the formal financial sector; and lack of tailor-made financial products and services that meet the needs of low-income earners.

iii. Policies and Strategies

PNG implemented the National Informal Economy Policy (2011-2015) followed by the SMEs Policy 2017 to develop the informal sector and SMEs, and integrate them into the formal economy. PNG implemented its First National Financial Inclusion Strategy (2014-2015) to support the objectives of the National Informal Economy Policy (2014-2015) and is now implementing the Second National Financial Inclusion Strategy (2016-2020), supported by the Financial Inclusion Policy 2019. The strategic objectives of the first and second strategies are: to reach 2 million unbanked population of which 50% are women; create a financially competent generation of Papua New Guineans; support use of technology for scaling up access to financial services and financial literacy; strengthen consumer protection; integration of financial inclusion in local and central government; promote regular collection of data for informed policy making; and knowledge sharing and effective coordination between all stakeholders, including development partners.

iv. Implementation and Overcoming Barriers

The PPP became an overarching implementation strategy to improve access to affordable financial products and services, as well as overcome the barriers, involving government departments and agencies, financial institutions, telecommunication companies, payment service providers, regulators, and non-government organizations (NGOs). Under the PPP, the government sets the policy and strategy, while the private sector facilitates the delivery of accessibility to financial products and services at affordable prices. PPP is also supported with the financial literacy training and introduction of micro-finance institutions, to scale-up financial management skills and delivery of financial products and services to the low-income earners, in both rural and urban areas.

v. Fintech

The liberalization of the telecommunications sector in the mid-2000s, led to an increase in competition and products as a result of the entry of new mobile phone operators to the sector. The adaptation of new technologies with digital payment platforms, using mobile phones and computers, has helped to implement the National Financial Inclusion Strategies to advance financial inclusion in PNG. Further competition and reduction in the prices of telecommunication is expected, after the completion of fiber optic submarine cables connecting the mainland United States and Australia in 2019.

A payments system owned and operated by the Central Bank is being implemented in PNG since 2013, which will link all payment service providers (including ATMS, non-bank financial institutions, and savings and loan societies). When it is fully operational by the end

of July 2019, account-holders can conduct their debit and credit transactions from any financial institution, or through their mobile phones or computers.

vi. Financial Consumer Protection

Current regulations do not cover financial consumer protection. Work is in progress in PNG to develop a financial consumer protection policy, starting with a review of existing legislations covering consumer protection in collaboration with the World Bank Group.

vii. Financial Education and Training

Current financial literacy initiatives are aimed at disseminating financial knowledge to school children, women, and low income earners through short training programmes, expositions, and financial sector institutions. Work is also in progress to include a financial inclusion syllabus in the formal education system, for implementation.

viii. Results

Accessibility to financial products and services as indicated by the number of new bank accounts opened by the unbanked population has increased to 25 percent in 2019, from 15 percent in 2013, of which about 50 percent are women.

ix. Lessons Learnt

Good governance, leadership, and political will are required to implement successful structural reforms, to create an environment conducive for advancing financial inclusion under the PPP. Sharing these experiences will enhance collaboration and capacity building within APEC region to overcome barriers and challenges to financial inclusion space.

5. Summary

Financial inclusion is part of the broader structural reforms in PNG. It is being implemented using a PPP model, where the Government sets the policy and strategies while the private sector is expected to develop innovative solutions to the barriers and challenges facing PNG in advancing financial inclusion.

THE PHILIPPINES

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

The National Strategy for Financial Inclusion (NSFI) serves as the primary platform for engaging multi-stakeholder strategic support for financial inclusion. The inter-agency Financial Inclusion Steering Committee (FISC) has identified digital finance as a priority area. The objective is to promote widespread adoption of digital financial services by leveraging on compelling use cases for digital payments (e.g., bills payment, receipt of wages, social transfers, payment of government fees). At present, payments dominate the fintech landscape in the Philippines with 44% of players offering innovative solutions to facilitate payment and remittance transactions. The National Retail Payment System (NRPS) serves as the backbone of digital finance in the Philippines, and platform for innovations

where fintechs can thrive and develop cases that will encourage more users of digital payments.

The Bangko Sentral ng Pilipinas (BSP), as the NSFI lead and primary financial sector regulator, supports responsible fintech innovations considering their link to financial inclusion as well as the general efficiency in the delivery of financial services. The current regulatory environment allows fintech to flourish, and at the same time, ensures that risks are effectively managed. This approach facilitates a level playing field by providing clear and proportionate regulations that take into consideration the magnitude of risks identified in a defined activity and how they are managed, and not simply according to the type of entity that delivers it (activity-based regulation). New solutions are allowed to operate in a live but contained environment without the immediate burden of regulatory compliance through a ‘test and learn’ mechanism, now being referred to as the ‘regulatory sandbox’ in other jurisdictions.

Recognizing the power of inclusive fintech as a catalyst and strategic enabler of financial inclusion, the BSP has been gearing up for the development of a digital finance ecosystem that promotes diversity of players catering to the various needs of the public, particularly the low-income and unserved segment. Such an ecosystem is built on the following pillars:

- *Democratized access to a transaction account*, wherein every person is able to open an account and use digital financial services (BSP Circular No. 992);
- *Expansive network of low-cost touch points* to onboard new clients and facilitate the digitizing and disbursing of cash and other financial transactions (BSP Circular No. 940); and
- *Efficient retail payment system* that facilitates delivery of digital financial services, especially for small value transactors (BSP Circular No. 980).

Undergirding these pillars are digital and financial literacy, sound market conduct and consumer protection, and strong cyber resilience of the digital finance ecosystem to deepen the public’s knowledge of and trust in digital financial services to ensure that can fully optimize the welfare-enhancing promised benefits of fintech innovations.

No amount of technology and enabling regulatory environment will result in digital financial transformation if smaller financial institutions are not capacitated. In this regard, we are facilitating the support of development partners (e.g., Asian Development Bank, French Development Agency) to increase the capacity of smaller financial institutions such as rural banks which are strategically positioned to promote rural development. An example is Cantilan Bank, a rural bank in Mindanao, which now utilizes cloud-based technology for its core banking system to manage its day-to-day operations more effectively and serve its clients more efficiently.

There are also challenges that are outside the scope of the financial sector, for instance, the establishment of basic infrastructure necessary to realize digital financial inclusion. These include physical infrastructure such as roads, power supply, mobile and internet connectivity, among others. This is why financial inclusion has been widely embraced in the Philippines as a shared objective demanding whole-of-nation undertaking.

Other Initiatives aimed to promote FinTech and Financial Inclusion:

- **Republic Act 11057 or the E-Commerce Act.** Directed the implementation of an electronic payment system for the government transactions with the public. With this state policy government agencies and local government units (LGUs) developed or acquired their respective electronic payment and collection systems.
- **Microinsurance.** The Insurance Commission (IC), an agency under the DOF, has released the following guidelines to encourage the development and usage of financial technology:
 - **Circular Letter 2018-07**, providing an enhanced framework on the use of mobile phones as distribution channel for insurance products. This supplements the guidelines on the electronic commerce of insurance products issued by IC in 2014, one which provides the framework on the distribution of insurance products through the internet;
 - **Circular Letter 2018-51**, guidelines defining an online insurance aggregator and providing for the licensing and regulation of the same;
 - **Circular Letter 2019-13**, licensing requirement for issuance of new or renewal of licence to act as on line insurance aggregator; and,
 - **Circular Letter 2019-21**, guidelines for the regulation of online sales platforms and the sale therein of specific insurance products such as compulsory third party liability insurance that recognized the use of electronic and digital marketplaces as an innovative system of commerce for insurance products.
- **Access to Financing for MSMEs, Farmers and Fisherfolks through Secured Transaction Reform.** Republic Act No. 11057 otherwise known as the Personal Property Security Act (PPSA)⁴² was signed by President Rodrigo R. Duterte on August 17, 2018 aims to boost access to credit especially of micro, small and medium entrepreneurs (MSMEs), farmers and fishers, and shall improve competitiveness. It was spearheaded by the Department of Finance (DOF) with the assistance of various donor agencies coupled with dedicated efforts of a Technical Working Group (TWG) composed of representatives from the regulatory bodies, concerned government agencies, and private sector.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

Consumer protection and financial education are integral components of the economy's financial inclusion agenda. While Republic Act No. 7394 (Consumer Act) contains provisions on Consumer Credit Transaction (Title IV), there is no standalone statute governing protection of the financial consumers. Therefore, a Financial Consumer Protection Bill has been drafted to address this gap.

⁴² The law establishes a unified, centralized online noticed-based collateral registry that will be lodged in the Land Registration Authority (LRA). It likewise prescribed clear priority rules in case of foreclosure, among others, that provide protection and give more confidence to banks and financial institutions in lending to agriculture sector and MSMEs.

The BSP issued Circular No. 1048 dated 6 September 2019 which enhances the Financial Consumer Protection Framework. The proposed regulation retains the five (5) consumer protection standards of conduct (disclosure and transparency, protection of client information, fair treatment, effective redress, and financial education) but is principles-based to provide flexibility for the BSP-supervised financial institutions to strategize governance and exercise oversight to address the need to protect and empower the financial consumers based on a risk-based approach. It also contemplates technology and digital financial services delivery.

In addition, the DOF in coordination with the Insurance Commission (IC) together with donor institutions and technical working groups (TWGs) of stakeholders formulated and developed the Regulatory Framework for Microinsurance and the National Strategy for Microinsurance in 2009.

Similarly, other frameworks were developed in 2014 to 2016 and IC Circular Letters were also issued in the succeeding years to address issues on consumer protection.

Framework	Main Areas Addressed
2014 Alternative Dispute Resolution Framework for Microinsurance (AdRem)	<ul style="list-style-type: none"> Addresses disputes arising from microinsurance contracts, providing various modalities that are low-cost, accessible, practical, effective, and timely.
2016 Distribution Channels and Consumer Protection Framework	<ul style="list-style-type: none"> Supplements and expands existing regulations on distribution channels for microinsurance, micro pre-need, and health microinsurance products. Defines acceptable distribution channels that may be contracted; describes the permissible functions and activities of distribution channels. Lays out the responsibilities and market conduct of distribution channels and all parties involved. Prescribes measures to follow to ensure that the rights of consumers are protected.
Circular Letter 2018-63	<ul style="list-style-type: none"> Immediate release of life insurance policy proceeds to the beneficiaries within 60 days after presentation of the claim and filing of proof of death of the insured.
Circular Letter 2019-13	<ul style="list-style-type: none"> Compliance with the provisions of the Data Privacy Act of 2012.
Circular Letter 2019-31	<ul style="list-style-type: none"> Regulation and prohibitions in relation to the conduct of Brokers of Agents of Health Maintenance Organizations (HMOs).

Meanwhile, the new approach to financial education focuses on digital content creation and strategic institutional partnerships among the BSP, other government agencies, and the private sector to generate greater multiplier effect and promote cost-efficiency and program effectiveness. Financial education will be embedded in programs that reach students, overseas Filipinos and their families, conditional and unconditional cash transfer recipients, uniformed personnel, micro, small and medium enterprises (MSMEs), and civil servants. Lastly, DOF is currently conducting financial education/information campaign in relation to

promoting the Personal Property Security Act (PPSA), initiatives on microfinance and microinsurance, and other government programs on savings, trainings and access to finance.

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

- Increase the capacity of rural banks to participate in the digital finance ecosystem.
- Capacity building for policymakers and financial regulators to upgrade their capabilities in terms of surveillance and appropriate supervisory tools to properly oversee the market, to keep up with fast-changing environment, and to inform the enabling regulations that strike a balance between financial inclusion and other objectives such as financial stability, financial integrity, cyber security, data privacy and competition, among others.
- Capacity building / trainings on block chain technology for the registries in relation to the PPSA, and study tour on best warehouse receipts systems practices, among others.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

The Philippines will actively participate in activities anchored on peer learning and knowledge sharing for it to be able to share its experience and to learn from the approaches of other APEC economies in regulating fintech and promoting digital financial inclusion.

RUSSIA

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

The main initiatives introduced to encourage the development and usage of FinTech in order to promote access to financial services in Russia are the program "Digital Economy of the Russian Federation", the publication of the Guidelines for the Development of Financial Technologies for the period of 2018 – 2020, and the launch of a regulatory sandbox by the Bank of Russia in 2018.

In order to create conditions for the digitalization of all sectors of the Russian economy, in July 2017 the Russian Government adopted the program "Digital Economy of the Russian Federation" (in force until 2024). The program includes six federal projects: "Regulation of the digital environment", "Digital technologies", "Information security", "Information infrastructure", "Digital public administration" and "Human resources for the digital economy". The main objectives of the program are to remove legal barriers, ensure information security, develop technologies, create necessary infrastructure, introduce innovative approaches to public administration, and provide the economy with competent specialists. The program is aimed at developing both public and private sectors and their integration, which is key for the digitalization of the economy in general.

For the purpose of the program's coordination and realization, an autonomous non-profit organization "Digital economy" has been established. The organization facilitates interaction between business, universities, academic community and the government in the digital sphere and ensures the timely realization of the six federal projects.

In 2017, the Bank of Russia compiled the Guidelines for the Development of Financial Technologies for the period of 2018 – 2020, which set out the following goals:

- promoting competition in the financial market;
- improving the accessibility, quality and range of financial services;
- reducing risks and costs in the financial sector;
- improving the competitiveness of Russian technologies.

The strategy defines the main tracks in the field of financial technologies, including:

- legal regulation of FinTech;
- development of digital infrastructure (digital biometric identification, fast payments system, financial marketplace, DLT platform, cloud services, etc.);
- transition to electronic communications between the Bank of Russia, government authorities, market participants and their clients;
- development of a regulatory sandbox for piloting innovative financial technologies, products and services;
- international cooperation;
- cybersecurity;
- development of human resources.

In 2017, the Bank of Russia collaborated with financial market participants to establish a platform for cooperation between the regulator and the largest financial organizations so that it would help develop major Fintech initiatives - the FinTech Association. It works in the following Fintech areas: distributed ledger technology (pilot projects based on the DLT platform "Masterchain"), digital biometric identification and digital identity management, the Fast Payments System, and Open API.

In order to ensure favourable conditions for innovation in the financial market, the Bank of Russia launched a regulatory sandbox in 2018 to test innovative financial technologies, products and services.

Russian legislation is being updated so as to accommodate and promote the use of FinTech. Federal laws on international remittances, on alternative types of investment (crowdfunding) and on the regulation of digital assets have been drafted and are expected to be adopted in 2019.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

- The interconnected issues of protecting financial services consumers, promoting financial literacy and ensuring financial inclusion are covered by the two main Russian strategic documents relating to financial inclusion:
 - the Financial Inclusion Strategy for the Russian Federation for the period of 2018-2020,

- the Strategy for Improving Financial Literacy in the Russian Federation for 2017-2023.
- The Financial Inclusion Strategy sets forth the following priority goals in the field of financial inclusion:
 - improve the accessibility and quality of financial services provided to remote or hard-to-reach communities, SMEs and consumers with limited access to financial services (low-income, disabled and elderly persons and other mobility-impaired population groups);
 - increase the speed and quality of access to financial services for consumers with an Internet connection.
- The Strategy for Improving Financial Literacy aims at promotion of financial inclusion, financial literacy and consumer protection through establishing the necessary institutional base and educational methodology. Among steps to enhance financial inclusion as well as financial education and consumer protection taken in 2016-2018 are the following:
 - The Bank of Russia has launched its financial literacy website Fincult.info (<https://fincult.info/>), designed to reach a wide audience of consumers at varying levels of economic awareness and financial capacity. The website offers important recommendations to help its readers stay well informed about financial innovations and make effective financial decisions.
 - The Bank of Russia has started the implementation of a market conduct supervision framework based on preventing misconduct through a forward-looking approach and behavioural regulation. Such supervision and regulation will help to increase public confidence in the financial market and financial services' quality and accessibility, as well as contribute to the development of the financial market as a whole.
 - The project "SMEs and Support for Individual Entrepreneurial Initiative" has been launched.
 - The mapping of financial services access points has been launched.
 - Common credit provision standards for SMEs have been developed.
 - The individual investment account annual contribution limit has been increased to 1 mln RUB.
 - The Ministry of Finance of the Russian Federation has launched the web site for financial literacy (<https://vashifinancy.ru>). It is an educational e-library and news-feed and it helps people to get access to various financial literacy textbooks, manuals, online simulators and calculators, games, cartoons, comics, etc.
 - The Ministry of Finance published 5,2 million copies of financial literacy textbooks for Russian schools.
 - The Ministry of Finance launched the financial literacy ranking for Russian regions, based on the OECD methodology.
- Under the Financial Literacy Project of the Ministry of Finance, the International confederation of consumers (KonfOP) regularly conducts independent mystery shopping to monitor the financial consumer rights protection in different types of financial services and organizations. Moreover, the Ministry of Finance is using a mystery shopping technology and in cooperation with consumer organisations surveyed the level of financial accessibility for elderly people and people with disabilities.

- Under the Financial Literacy Project, the Ministry of Finance has developed and tested draft electronic forms for typical financial services passports - a mechanism for better information disclosure for consumers.

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

Reasonable regulation improvement. Historically, it was widely believed that financial regulation's role should be confined to containing risks. Attempts to put in place proportionate, risk-based regulation that would slow down the growth in some areas but would stimulate other, higher-priority ones instead, have always been met with an outcry from the business circles. Yet we still need to strike a balance between limiting risks in some sectors and stimulating business, technology and financial inclusion as a whole.

The shift that digitalisation has brought about in the financial industry has led to both the emergence of new Fintech companies and the widespread use of new technologies by established financial institutions (such technologies include big data, risk-oriented decision-making systems, credit decisions, the use of complex mathematical models in risk management systems, and working with open interfaces and cloud computing).

Given the rapid pace at which the sphere is changing today, it is vital to conduct not only ex ante assessment of the legal drafts, but also to provide ex post analysis in order to ensure that the legal requirements correspond with reality.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

The realization of the strategies, programs and guidelines listed above is connected to expanding the professionals' expertise and constant exchange of best practices exchange. Russia cooperates with the AFI, GPFI and OECD on financial inclusion, financial education and financial consumer protection issues, so it can contribute by linking its partners to various international expert platforms, as well as by providing its own good practices at the APEC.

SINGAPORE

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

We adopt an activity-based approach to regulation that is technology neutral. If the Fintech's activities fall within the scope of an existing regulated activity, then it would be regulated in a manner consistent with other existing regulated entities.

In determining the appropriate extent of regulation, we adopt a materiality and proportionality test. The weight of regulation is proportionate to the risk posed. The regulatory framework provides for MAS to exempt certain requirements, which we can

consider in cases where the activity is small and potential risks are mitigated. Our regulatory framework has also been designed to provide sufficient flexibility for MAS to respond quickly should there be a need to bring new products or activities within regulatory ambit.

MAS encourages FinTech experimentation through the use of a regulatory sandbox, which serves as a platform to allow new and innovative FinTech innovations that do not currently meet our requirements to experiment in a controlled environment, where entities are granted temporary limit any consumer detriment or impact on the financial system from the consequences of failure. This allows businesses and regulators to better understand the nature and scale of the risks and benefits.

To facilitate quicker experimentation and faster introduction of innovative financial services to the market, MAS issued a public consultation paper in Nov 2018 on the creation of pre-defined sandboxes, known as Sandbox Express, to complement the existing bespoke FinTech Regulatory Sandbox that was launched in 2016. The aim is to enable firms which intend to conduct regulated activities to embark on experiments more quickly, without needing to go through the existing bespoke sandbox application and approval process.

Further, MAS, the World Bank Group's International Finance Corporation (IFC) and the ASEAN Bankers Association have collaborated to establish the ASEAN Financial Innovation Network (AFIN) with its API Exchange (APIX) platform that would enable financial institutions to embrace FinTech innovation and collaboration more easily, and thereby deepen access to finance for underserved segments of the population. APIX is both an online FinTech Marketplace and FinTech Sandbox. As a marketplace, it will enable financial institutions to discover and connect with FinTech firms through APIs on a globally curated platform. As a sandbox, it provides a platform for FIs and FinTech firms to collaborate and experiment on solutions in a contained environment.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

In Singapore, efforts to enhance financial inclusion are taken for vulnerable groups as a whole, including the elderly. In June 2018, Singapore (the Ministry of Communications and Information, along with its partners in the private and people sectors) launched a Digital Readiness Blueprint aimed at helping every man cross the digital divide, which is considered essential for digital financial inclusion.

The Blueprint contains recommendations on the following: 1) Providing widespread access to technology 2) Driving digital literacy 3) Empowering the community and businesses to drive widespread adoption of technology and 4) Hardcoding digital inclusion into the design of all processes and services (including financial services).

There are also existing initiatives in place at the government, business and community levels to ensure technology is inclusive. For example, the Infocomm Media Development Authority (IMDA) runs a Digital Inclusion programme to provide education and e-payment access to members of public who need help.

The MoneySense-Singapore Polytechnic Institute for Financial Literacy also works with Social Service Offices, community partners and VWOs to bring financial education to the more vulnerable segments of the population.

What are your economy’s capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

While Singapore is making progress in using Fintech to improve the content and delivery of financial education (including on financial decision-making), we are open to learning from other economies experiences' and best practices.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

We have also worked with our agencies to identify a few useful papers/articles that focuses financial inclusion, that you may wish to consider:

Title	Link
Governor Menon’s speech at Singapore FinTech Festival 2018 (which provides an overview of Singapore’s approach for FinTech)	https://www.mas.gov.sg/news/speeches/2018/singapore-fintech
Early Lessons on Regulatory Innovations to Enable Inclusive FinTech (2019) (Report produced by University of Cambridge’s Centre for Alternative Finance (CCAF), and the FinTech Working Group of the UNSGSA, with support of the MAS)	https://www.unsgsa.org/files/2915/5016/4448/Early_Lessons_on_Regulatory_Innovations_to_Enable_Inclusive_FinTech.pdf
World's First Cross-Border, Open-Architecture Platform to Improve Financial Inclusion (2018)	https://www.mas.gov.sg/news/media-releases/2018/worlds-first-cross-border-open-architecture-platform-to-improve-financial-inclusion
MAS and UNCDF to Collaborate on Driving Financial Inclusion in ASEAN Region (2017)	https://www.mas.gov.sg/news/media-releases/2017/mas-and-uncdf-to-collaborate-on-driving-financial-inclusion-in-asean-region
Singapore’s Digital Readiness Blueprint (2018)	https://www.mci.gov.sg/en/portfolios/digital-readiness/digital-readiness-blueprint

CHINESE TAIPEI

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

Chinese Taipei has actively fostered developments of FinTech or digitalization of financial services in order to help related companies take advantage of technology to reduce service cost, enhance efficiency and quality, and help more people to access financial products and services at reasonable prices. Meanwhile, we effectively increased the availability of financial services and products by improving access to financial services for people in remote areas, underprivileged groups and small business owners by taking advantage of the borderless feature of the Internet and extensive use of mobile phones. Related important measures are as follows:

1. Established a mechanism for experiments for FinTech innovation (regulatory sandbox): We have created a safe environment for FinTech R&D activities and pilot tests, in order to encourage the industry to develop products and services that can effectively enhance financial efficiency, lower costs, and better protect consumer interests. Creating such an environment can also facilitate development of various customized, convenient, innovative financial products or services for different groups of customers, in order to meet the public's needs for financial service.
2. FinTechSpace: Creating the FinTechSpace provides start-up owners with the resources they need in the initial stage of their operation. The financial regulator plans to work with industry, academia and research institutions and enhance networking with international communities, in order to foster FinTech innovations, stimulate competition in the financial market and improve financial service quality to customers.
3. FinTech Taipei: The annual event of FinTech Taipei was first held in 2018. It expedited exchange and matchmaking of international and domestic FinTech players for collaborative brainstorming on innovative service models and enhancing of FinTech capability through the FinTech expo, seminars on related international trends, and a variety of matchmaking activities. FinTech Taipei 2019 is scheduled to be held on Nov. 29 and Nov. 30, 2019.
4. Facilitating digitalization of financial services: our financial regulator has encouraged financial institutions to actively launch different mobile payment services and online financial services. Meanwhile, the regulator has allowed establishment of online-only banks and planned to adopt open banking practices to encourage the financial industry to launch diversified, convenient digital financial services.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

Financial service consumer protection

1. On one hand, we have introduced appropriate deregulatory measures to facilitate business development of innovative applications for growth of the financial industry. On the other

hand, we have asked financial institutions to emphasize risk control and management for protection of financial consumer interests. The Financial Consumer Protection Act was enacted in June 2011 and took effect on December 30 of the same year. In addition, the Financial Ombudsman Institute was set up as an organization specifically dedicated to handling financial consumption disputes for effective protection of financial service consumers.

2. On Dec 31, 2015, the Principle for Financial Service Industries to Treat Clients Fairly was issued as the guiding principles of consumer protection for financial service providers. In order to urge financial service providers to foster a business culture that emphasizes fair treatment to all customers and provides financial consumers effective protection of their interests and understand their application of the Principle, the mechanism for assessing their adherence to the guideline was set up in 2019 and the assessment results will be presented to regulatory authority for financial supervision purpose.

Financial education

1. Financial education is a key component in enhancing capacity building of financial inclusion. The campaigns for financial literacy promotion can help people develop appropriate financial consumption concepts and build their risk awareness, which can improve overall financial literacy of the public, reduce the awareness gap regarding financial product and increase financial service availability among multiple social groups based on gender, education, income levels, and ages, effectively improve financial status of underprivileged groups and advance financial inclusion.
2. In order to improve the overall financial literacy of society, since 2006 we have designed and implemented the “Financial Literacy Program,” which has entered phase V (one phase takes 3 years). We have also integrated resources of different sectorial organizations for continued improvement of the financial literacy building framework with four strategies, including financial literacy campaign directed at the public, educational events on campus, cooperation with public welfare events, and use of multi-media. Meanwhile, the financial regulator has launched a series of financial literacy promotion programs targeting different groups, including females, students, senior citizens, and indigenous people, on a variety of issues, such as information security, FinTech, anti-money laundering, and financial products for the elderly. As of the first quarter of 2019, the financial regulator and financial organizations had held over 2,174 financial literacy events, which were attended by about 197,000 participants.
3. With the aim of encouraging financial institutions to share financial information so that cyber-attacks can be quickly and effectively prevented and financial cyber security resilience and protection capability can be enhanced to provide people with a secure digital financial services environment, our financial regulator has established the Financial Information Sharing and Analysis Centers (F-ISAC.) Teams that are currently conducting regulatory sandbox experiments have become members of the center.

What are your economy’s capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

FinTech innovations can help satisfy various consumer needs and increase competitiveness of financial institutions. Only by taking consumer interests protection and financial market

stability into account when encouraging innovative developments, can the goal of digital financial inclusion be achieved. Therefore, the major needs for capacity building are as follows:

1. Good grasp of innovative models and potential risks: Considering the cross-discipline and cross-border characteristics of FinTech, we have introduced the FinTech innovative experimentation mechanism to better understand ideas of related business owners about innovative technology and business models. In practice, such ideas may incur substantial risks and involve potential issues. Therefore, more exchange with experts in other technology domains and regulatory authorities of other economies will help to control risk and ensure the soundness of our financial system.
2. Introduction of supervisory technology: In order to enhance supervision capabilities for FinTech and digital financial business activities, our financial regulator has actively introduced and utilized technology for supervisory activities and launched financial examination by electronic means. However, most of the supervisory staffs are not technology professionals and lack relevant experience in the technology deployment and related practices. With engagement of technology professionals, the regulator will be able to increase supervisory efficiency and establish related supervisory mechanism.
3. Creation of sound FinTech eco-system: As FinTech is characterized by diversity and innovation, it can help to create a multi-layered, comprehensive, and competitive financial inclusion system. As there is no big technology company in our economy to lead FinTech development, the financial regulator has faced more challenges and difficulties to create a complete FinTech eco-system. Technology start-ups lack of economy of scale and also face difficulties in raising funds in the financial market, while their owners have inadequate financial regulation literacy. In order to build a FinTech ecosystem that facilitates interaction and provides customer-friendly service, the FinTechSpace was set up to foster development of FinTech innovations with incubation and matchmaking efforts and to accommodate creative experiments by providing the spaces they need.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

We strongly support the Financial Inclusion Capacity Building Package launched by the APEC and strives for the goal of digital financial inclusion. In the future, we are willing to share our experiences of policy implementation, such as regulatory sandbox and the mechanism of FinTech ecosystem, and work with other APEC economies for enhancement of financial inclusion capability.

THAILAND

What approaches for example, policies, strategies, leading practices and institutional developments have your government undertaken or followed to encourage the development and usage of Financial Technology (Fintech) to promote access to financial products and services?

FinTech

- FinTech plays a significant role in a movement to change the face of financial system. For Thailand, actions have been taken as part of the government's Thailand 4.0 initiative, which seeks to create a value-based economy driven by innovation, technology and creativity.
- Following the Ministry of Finance's recommendation, the cabinet has approved three pillars to promote Fintech in Thailand. The three pillars are the soft digital infrastructure, the use of FinTech in Specialized Financial Institutions or SFIs, and the provision of incubation space.
- For the first pillar, on soft digital infrastructure, there are two projects: National e-Payment Master Plan and Digital Authentication Platform.
 - The Ministry of Finance and the Bank of Thailand has shepherded an effort to implement "National e-Payment Master Plan". The Master Plan has helped create a comprehensive and interoperable electronic payment infrastructure that will transform how Thais transfer money, how Thais pay taxes and even how the government disburses public welfare. This transformation will certainly create a conducive environment for digital economy to flourish in Thailand.
 - Apart from the payment side, digital authentication is needed to conduct other financial transactions. The Ministry of Finance and the Ministry of Digital Economy and Society, along with partners in the private sector, have formed a task force to create "National Digital Identification Platform", which will serve as an indispensable digital infrastructure for the economy. This National Digital ID Platform has been designed to be interoperable between government and private sector. Electronic Transaction Act 2001 has also been amended as proposed by the Ministry of Finance to accommodate digital authentication and verification.
- In the second pillar, Specialized Financial Institutions or SFIs are required to adopt FinTech solutions to conduct their public services mandate, which is to fill financial gaps and mitigate market failures in the financial sectors.
 - One of the examples is the participation in Thailand Blockchain Community Initiative by the Government Savings Bank and the Bank for Agriculture and Agricultural Cooperatives, two of the biggest SFIs in term of asset size.
 - There, the two SFIs will adopt blockchain technology to improve business efficiency and competitiveness. By integrating and digitizing the Letter of Guarantee (LG), the product with market value of 1.35 trillion-baht, the banks will cut their operating costs on LG by half.
- In the third pillar, Institute for Financial Innovation and Technology or InFinIT was established to support the FinTech ecosystem in Thailand by offering a platform for incubation and acceleration programs to startups and professionals. InFinIT works

closely with SFIs and is expected to be in operation soon. A goal of InFinIT is to promote financial inclusion via the use of FinTech.

Regulatory Sandbox

- Three regulators, including the Bank of Thailand, the Office of Insurance Commission and the Securities and Exchange Commission, have established regulatory sandboxes to facilitate innovation in the financial services industry. Regulatory Sandbox allows private sectors that provide innovative financial services with new technologies to start providing services faster under regulator's close monitoring. The regulatory sandbox also allows banks, and payment service providers to test the technology, ensuring interoperability among all service providers, as well as to follow industry-led business rules. One of the most successful cases of Sandbox to drive innovation is the Standardized Thai QR Code for Payment.

P2P Lending Platform

- The Ministry of Finance and the Bank of Thailand has issued the regulations on peer-to-peer lending to expand opportunities for individuals or small-business owners to access financial sources, as well as to ensure the proper consumer protection and risk management of the P2P lending platform providers.

What measures, for example, specific regulations, projects, subsidies, etc., have governments put in place to address associated consumer protection and financial education issues to advance Financial Inclusion?

- Since 2016, the Ministry of Digital Economy and Society (MDES) has been established to plan, promote, develop and implement activities related to a digital society and economy. Furthermore, to reaffirm the government's commitment to Thailand's innovation-driven future under Thailand 4.0 Initiative, the National Legislative Assembly (Parliament) passed six technology-related bills in January 2019. The six digital bills include the Data Protection Bill; the Cyber-security bill; the Digital Economy and Society Council bill; the Digital Identification bill; the Electronics Transaction Organisation Restructuring bill; and the Electronics Transaction Officer bill.
- Moreover, the Ministry of Finance is on the process of revision of the draft of National Financial Literacy Plan according to the National Economic and Social Development Council's comments and will submit the plan to the cabinet for approval. The plan proposed calls for actions in 5 areas that are crucial to promote financial literacy in Thailand including:
 1. Building public awareness about financial literacy and available resources
 2. Developing core competencies and standards for financial literacy
 3. Strengthening financial literacy of the next generation through the formal education system
 4. Strengthening financial literacy through programs and workshops tailored to each potential target groups and
 5. Making financial literacy more accessible.

What are your economy's capacity building needs with regard to developing and using Fintech to promote financial inclusion, consumer protection and financial education?

APEC has played a vital role in addressing challenges in reform of digital economy through providing assistance that could help developing economies to enhance its capacity as well as accelerate innovation. Member economies can learn from others' reforms and outcome.

How can your economy contribute to capacity building in developing and using Fintech to promote financial inclusion, consumer protection and financial education?

To share experiences on the lessons learned in improving structural policies for the development of digital economy.