



Repositioning Thailand's Financial Sector for a Sustainable Digital Economy

BOT Consultation Paper on Financial Landscape
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Foreword

The Bank of Thailand (BOT), as a regulatory body overseeing financial stability, recognizes the importance of technological advancement and environmental changes. Such trends present opportunities for Thailand's financial sector not only to improve financial services but also to facilitate businesses transition towards sustainability. At the same time, these changes also come with new challenges. If the Thai financial system is late to adapt to these trends, they could potentially pose risks to financial stability, leaving the Thai economy to fall behind their peers, or even exacerbate economic and social inequalities. After a preliminary consultation with experts, policy committees, relevant agencies from the public and private sectors as well as other regulators, the BOT is publishing this consultation paper to lay out the important directions and policies for repositioning the Thai financial sector in a new landscape with the following key objectives:

1. The financial sector leverages on technological advancement to drive innovation and provide inclusive financial services and consumer protection, in a level playing field and competitive environment;
2. The financial sector facilitates businesses and households in the transition to a digital economy and helps them effectively manage environmental risks and;
3. The financial sector is resilient to significant and new risk factors and able to contain systemic risks in rapidly changing environments without transmitting them to the system or consumers at large.

The three objectives will result in better financial services, improved financial access, and enhanced consumer protection. In transitioning to a digital economy, households will need to be equipped with financial and digital literacy, so that access to financial services can be expanded without leading to financial vulnerability from excessive debt accumulation. Businesses will be sufficiently incentivized to transition towards digital and environmentally sustainable economy.

The directions and policies outlined in this consultation paper remain preliminary. To ensure that the directions and policies for repositioning the Thai financial sector in the new landscape appropriately serve the needs of all stakeholders, the BOT welcomes comments and suggestions both on specific issues as outlined in the questions at the end of each section as well as on the overall directions. Inputs received will be brought into consideration in policy formulation process before finalizing and prescribing policies in further detail. Additional directional papers on a particular policy will be issued in order to provide clarity on practical details.

Comments and suggestions can be submitted from now until 28 February 2022 via the following channels

1. BOT website (www.bot.or.th/landscape); or
2. e-mail (finlandscape@bot.or.th)

All comments and suggestions are confidential and will not be disclosed. A summary of the inputs received will be used for the purpose of improving the directions and policies regarding the financial sector's landscape, which will be communicated further afterwards.

The BOT hopes that this consultation paper will help the public gain a better understanding of the BOT's views on current challenges facing the Thai economy and financial system as well as the underlying principles and policy stance to address the emerging trends. Such policy directions ultimately aim to support all stakeholders to make smooth and timely transitions towards a sustainable digital economy.

Executive Summary

Thailand's economic and financial system is going through a transformation. Technological advancement has accelerated an upgrade of financial services and narrowed the gap in financial access for businesses and households. However, businesses and households that are unable to adapt to the change in technology will risk falling behind even further. This could exacerbate the existing structural economic problems such as household debt and inequality issues. Meanwhile, environmental challenges have also become more imminent as the impact on the economy has been more rapid and more amplified than previously expected—both from more severe changes in weather conditions and natural disasters as well as environmentally related trade barriers imposed by many countries.

In this rapidly evolving environment, the repositioning of the financial sector needs to strike the right balance between promoting innovation and managing risks. Moreover, the financial sector needs to be more flexible in dealing with abrupt changes. This balance is necessary to enable the financial sector to adapt to the new challenges while maintaining the economy's resilience on course for a sustainable digital economy.

Key Directions for Repositioning the Financial Sector

1. Leveraging on technology and data to drive innovation and better financial services through Open Competition, Open Infrastructure and Open Data:
 - (1) **Open Competition** comprises an expansion of business scope and more flexibility in business operations of both bank and non-bank financial institutions (NBFIs), as well as open for new entrants to the market under risk-based supervision and level-playing field without creating monopolies or unfair market dominance in the future.

Key Policies
Introduce a virtual banking license to stimulate competition among service providers in innovating and providing financial services that serve the consumers' needs.
Lift the limit on FinTech investment, excluding that in digital assets, by subsidiaries and affiliates in a banking group and allow for more flexible structures of banking groups to encourage innovation while safeguarding deposits and providing appropriate consumer protection.
Expand the scope of non-bank businesses and allow open access to infrastructure at appropriate costs to encourage competition under risk-based supervision and a level-playing field.

(2) **Open Infrastructure** aims to allow more financial service providers to access key infrastructure at fair and reasonable costs. This will support open competition and development of financial innovation. Moreover, key infrastructure will further be developed to facilitate a transition to a digital economy, e.g. Smart Financial and Payment Infrastructure for Business to support digital trade transactions and payments, retail central bank digital currencies and credit guarantee mechanism to suit a variety of funding needs.

Key Policies
Upgrade the governance structure of the payment system infrastructure to allow greater utilization and to support innovation by having public and private stakeholders participate in policy settings.
Develop essential infrastructure to enhance access to financial services with risk-based funding costs such as credit guarantee mechanisms that can serve various funding needs and Smart Financial and Payment Infrastructure for Business.
Accelerate the reduction in cash usage, as well as reduce the use of paper cheques by half within 5 years to support the transition to a digital economy.

(3) **Open Data** enables better utilization of data to support the development of better financial services while ensuring appropriate data governance. Open Data will also improve financial access and enable more convenient and faster financial services, for instance, through data connectivity and exchange mechanism between service providers.

2. **Steer the financial sector to incorporate environmental risk assessment into their business operations and to support the transition of businesses away from environmentally unsustainable activities without disrupting the economy.** The financial sector also has an important role to play in facilitating households and vulnerable groups to adapt to the new, evolving economy. This policy direction entails laying out five key building blocks to enhance the role of the financial sector in the transition, e.g. green taxonomy and standard practice guidelines for financial institutions to internalize environmental risks and opportunities and offer financial products to support business transition. Moreover, the financial sector should facilitate the households, particularly vulnerable groups with high debt burden or those lacking financial and digital literacy, to adapt sustainably. Actions include ensuring responsible lending, putting in place a holistic debt resolution mechanism, and encouraging risk-based pricing. On top of this, the financial sector should help promote financial and digital literacy to ensure sound financial behaviors of households and to raise awareness about new financial frauds.

Key Policies

Sustainable finance: Steer the financial sector to systematically take on board an environmental risk assessment on business operations and provide financial products to help businesses adapt and cut down activities considered to be environmental-unfriendly, bearing in mind that the transition must not create a widespread adverse impact.

3. **Adopt a more flexible approach on supervision that will enable financial service providers to adapt, innovate, and effectively manage new types of risks.** Risk proportionality framework will be applied to a wider range of financial service providers and adopt a combination of a rule-based approach to set standards or minimum requirements and a principle-based approach that enables service providers to adopt risk management processes suitable to their risk profiles. Furthermore, regulatory impact assessment will be carried out to lessen excessive regulatory costs on the financial service providers. A non-disruptive license revocation mechanism needs to be in place for service providers that do not conduct businesses in an appropriate manner. Moreover, it is important to focus on effective regulations pertaining to systemically important players in order to reduce systemic risks, which could threaten overall financial stability, depositors, and financial service providers. For instance, risks to financial and payment system stability posed by digital assets and risks of new business models of banking groups will need to be addressed.

Key Policies

Discourage the adoption of digital assets as means of payment for goods and services in replacement of Thai baht. Such development would potentially create adverse impact on financial stability and the overall economic system.

Apply risk proportionality framework to various types of providers, as well as revise the regulations to lessen impediments and burden on financial services in order to allow the financial sector to adapt, develop innovation and effectively manage new forms of risks.

What Success Looks Like

- (1) The financial sector leverages on technological advancement to drive innovation and provide inclusive financial services and consumer protection, in a level playing field and competitive environment with due care for customers not to create excessive debt burden.
- (2) The financial sector facilitates businesses and households in the transition to a digital economy and helps them effectively manage environmental risks.
- (3) The financial sector is resilient to significant and new risk factors and able to contain systemic risks in rapidly changing environments without transmitting them to the system or consumers at large. Furthermore, financial regulations should be sufficiently flexible and do not create excessive burden on service providers.

Stakeholder Benefits from Repositioning the Financial Sector

Users	Households	Businesses
<p>Users can freely choose financial services suitable to their specific needs in a convenient way, and at the prices consistent with their own risks by utilizing digital footprints. They are sufficiently financially literate and able to use digital financial services safely and entitled to fair consumer protection.</p>	<p>The low-income can properly access financial services and become less dependent on informal finance, while the heavily indebted receives help to recover from debt burden in a sustainable way. Those unprepared to adopt technology will be prepared to adapt to the world of digital finance.</p>	<p>Businesses are incentivized and sufficiently funded to adjust smoothly during the transition to a sustainable digital economy. SMEs have better access to funding according to their specific needs and risk profile.</p>

This paper consists of 5 sections. **Section 1** accounts for key forces that are expected to shape the economy and financial sector and overlay the factors that the BOT takes into consideration in formulating policy directions. **Section 2–4** elaborate on each policy direction: Leveraging Technology and Data to Drive Innovation, Managing Transition towards Sustainability, Shifting from Stability to Resiliency. Each policy direction contains: (1) the BOT’s policy stance on what are desirable and what are not (2) the policies that the BOT plans to implement, and (3) key issues that are open to comments and suggestions, which will be stated at the end of each section. Finally, **Section 5** describes the BOT’s expectation on what success should look like after repositioning the financial sector in line with the directions outlined in Sections 2–4.

Section 1

Key Forces Shaping Thailand's Future Economy and Financial Sector

1 THE DIGITALWORLD

The Thai economy and financial sector are transitioning towards a digital world, as evidenced by a fourfold increase in PromptPay transactions (the national real-time retail payment system) and 9 million new platform users during the 2020-2021 period. This has prompted many service providers, both from the financial and non-financial sectors, to compete against one another by leveraging technological networks, data, and digital channels to provide faster and more convenient financial services that better serve the consumer needs. One example of such new technology is distributed computing technology (e.g. blockchain), which allows consumers directly access services without intermediaries.

However, such technological advancements could introduce new types of risks, such as data leakage, cyber risks, or volatility in the prices of digital assets.

Therefore, the financial sector should adapt to effectively utilize technologies and data, while exercise sound risk management in a timely and suitable manner.

2 SUSTAINABILITY MOVEMENT

Climate change is rapidly gaining ground and materiality in Thailand. The United Nations predicts that the world will be 1.5 degrees Celsius warmer in less than 20 years, likely resulting in more intensified natural disasters and Thailand is among the top 10 countries most vulnerable to climate change. The Thai industries, however, are still relying on conventional high-carbon technologies. This poses a serious concern that environmental policies implemented by developed countries, such as the EU's Carbon Border Adjustment Mechanism, could severely jeopardize Thai industries. **Therefore, the Thai financial sector should prepare themselves to capitalize on the opportunities while simultaneously mitigating risks from climate change. This involves assisting the real sector in adapting and lessening environmentally unsustainable activities, in order to mitigate the large-scale negative impact.**

3 INEQUALITY

Financial access inequality remains high. Due to information asymmetry, more than 60 percent of small and medium enterprises (SMEs) have not obtained financing from commercial banks or Specialized Financial Institutions (SFIs). As a result, additional collateral, credit guarantees or alternative funding sources are needed, such as credit from non-bank financial institutions (NBFIs) and joint ventures. Another issue is the elevated household debt levels, which has reached an all-time high after rising to 90 percent of Gross Domestic Product (GDP).¹ One third of the Thai population is indebted² and most of the highly indebted segment have low income.

¹Almost one-fourth of total household debt outstanding published by the BOT is loans issued by financial institutions not under BOT's supervision. Some types of debt are not included in this figure such as informal debt.

²Total debt per capita has doubled over the past 10 years, most of which contributed by consumption loans.

- 4 In addition, the COVID-19 pandemic has exacerbated the financial vulnerability of SMEs and the low-income household group. At the same, the pandemic has also accelerated the usage of electronic payments. Some households and businesses, however, still prefer to use cash and cheques³ and conduct financial transactions at bank branches and automated teller machines. Therefore, while new technologies may improve financial access for those that are digitally ready, it is necessary to provide support for those who are financially vulnerable, so that they can appropriately access financial services and manage their debt. This entails reducing over-borrowing and managing over-indebtedness. Additionally, support should be given to those who are not able to adapt to new technology, so as not to further exacerbate inequality.
- 5 The BOT has considered the key factors highlighted above and set three strategic directions to facilitate a smooth transition of Thailand's financial sector towards a sustainable and digital economy. The three directions are:
 - (1) Leveraging on Technology and Data to Drive Innovation
 - (2) Managing Transition towards Sustainability
 - (3) Shifting from Stability to Resiliency

³ On average, 87% of payment transactions are made by cash. 70% of cheque transactions amounts below 100,000 baht. This is due to its convenience and familiarity, especially for those who are not ready for digital services e.g. the elderly. Cheque also holds special characteristics preferred by businesses, such as postdated cheques and criminal penalties of dishonored cheques.

Section 2

Leveraging on Technology and Data to Drive Innovation

- 6 The BOT recognizes the opportunities presented by technological advancement and therefore proposes the following directions to promote better utilization of technology and data. The resulting financial innovations and services will meet the needs of consumers and bridge the gap in access to financial services.

7 OPEN COMPETITION

To allow both incumbent and new players to compete on a level playing field to provide better financial services and innovation for customers. Key policies are the following:

Key Policies
Introduce a virtual banking license to stimulate competition among service providers in innovating and providing financial services that meet the consumer needs.
Lift the limit on FinTech investment, excluding that in digital assets, by subsidiaries and affiliates in a banking group and allow for more flexible structures of banking groups to encourage innovation while safeguarding deposits and providing appropriate consumer protection.
Expand the scope of non-bank businesses and allow open access to infrastructure at appropriate costs to encourage competition under risk-based supervision and a level-playing field.

8 OPEN INFRASTRUCTURE

To provide service providers with access to financial infrastructure at reasonable and fair costs and ensure efficient utilization of key domestic financial infrastructures. Open infrastructure will, in turn, encourage open competition, innovation, and better financial services, and expedite Thailand's transition to a less-cash society and digital economy through the following key policies:

Key Policies
Upgrade the governance structure of the payment system infrastructure to allow greater utilization and to support innovation by having public and private stakeholders participate in policy settings.
Develop essential infrastructure to enhance access to financial services with risk-based funding costs such as credit guarantee mechanisms that can serve various funding needs and Smart Financial and Payment Infrastructure for Business.
Accelerate the reduction in cash usage, as well as reduce the use of paper cheques by half within 5 years to support the transition to a digital economy.

9 OPEN DATA

To enable better utilization of data and data sharing mechanisms among service providers. Consumers can make use of their data collected by different service providers to receive better services and to choose or switch service providers at reasonable costs. Also, big data databases that are currently scattered across different agencies will be connected, so that service providers can utilize data from various sources in creating financial innovations in accordance with

appropriate data governance and data security principles.

For example, credit analysis based on behavioral data and debt serviceability will enable thin-file SMEs and borrowers with insufficient credit history to gain better formal financial access with risk-based pricing.

These directions are to be guided by BOT's policy stances and achieved through the following key policies.

10 (1) OPEN COMPETITION

Open for both incumbent and new players to provide and innovate financial services

Policy Stances

[What we wish to see] Incumbent and new players can innovate and offer financial services that better serve the needs of consumers, improve efficiency, and help close the financial access gap without leading to over-indebtedness.

[What we do not wish to see] Business operators offering the same financial services but are not subject to comparable supervisory regulations; are not regulated in line with their risks posed to the system; and such business undertakings may pose risks to financial stability, depositors, or consumers at large; or may lead to monopoly or unfair market dominance e.g. using deposits or leveraging their customer base to directly compete with the real sector.

Key policies

11 (1.1) Introduce Virtual Bank as a New Player

Both new and incumbent players are welcome to establish a virtual bank.

The objective of the virtual banking license is to foster competition in developing financial services, promote innovations that meet consumer needs, as well as improving suitable access for the retail sector and SMEs. However, this should not grant market dominance leading to monopolization. A virtual bank is expected to be more agile and have lower operating costs than a traditional bank. This is a combination of the virtual bank policies of South Korea, Hong Kong, and Singapore, which aim to promote competition and stimulate innovation, together with those of Malaysia and the Philippines, which aim to improve the SMEs and retail sector's financial access.

Virtual Bank Characteristics

12 **(i) Subject to the same scope of business as a traditional bank**, allowing it to offer services to all consumer segments and compete with other service providers **while coming under the same risk-based supervisory framework as traditional banks**, namely in the areas concerning risk management, prudential measures, and fair treatment of customers. This is consistent with most international practices in licensing and supervision.

- 13 (ii) Locally incorporated with a headquarter or parent company in Thailand to enable the BOT to conduct supervision through its presence in the country. This is consistent with the licensing frameworks of virtual banks in Malaysia and the Philippines, and those of digital full banks in Singapore.

Example	Objective(s)			Scope of Business		Limit on Number of License
	Competition	Innovation	Financial Access	Full bank	Wholesale bank	
Hong Kong	✓	✓		✓ Retail and SMEs focus		
South Korea	✓	✓		✓ Lending to large businesses is not allowed		
Taiwan	✓	✓	✓	✓		
Singapore	✓	✓		✓ Lends to SMEs and large businesses, and accepts deposits from wholesale customers		✓
Malaysia			✓ Unserved and underserved segments	✓ Retail and SMEs focus		✓
Philippines			✓ Unserved and underserved segments	✓ Retail and SMEs focus		✓

The BOT will publish a consultation paper concerning guidelines on virtual bank licensing framework within the first half of 2022.

ISSUES FOR CONSULTATION:

- Do you agree with the above framework in establishing virtual banks, especially concerning the objective, scope of business, and eligibility of applicants? Do you have any additional suggestions?
- For those interested in applying for a virtual bank license, please state your intended business model including target customer group(s), scope of business, shareholding structure, etc.

14 (1.2) Increase Flexibility for Incumbents

Allow more flexibility regarding the business scope of financial institutions so that the existing players can better compete, innovate, and meet consumer needs. For instance, the investment limit on FinTech investment, excluding that in digital assets –currently at no more than 3 percent of the bank's capital–will be lifted for subsidiaries and affiliates within a banking group.

ISSUES FOR CONSULTATION:

- For financial institutions or their business groups, what investments or businesses do you wish to undertake in the future, to compete and offer services that meet consumers' needs, that are currently not permitted, unclear, or restricted under the BOT's regulations? e.g. limiting investment/holding shares not exceeding 10% of the interested business's total share
- For existing NBFIs that currently operate under multiple licenses, do you see the benefits of operating various non-deposit taking financial services under a single license, to increase agility in conducting business while adhering to a risk-based regulatory framework?
- For those interested in operating multiple non-deposit taking financial services under a single license, please indicate the structure, model, and scope of such business.

15 **(1.3) Support the Roles of Non-Bank Financial Institutions (NBFIs) and SFIs** to efficiently bridge the gaps in the financial system and improve services.

16 **(1.3.1) Expand the Scope of Business for NBFIs**

Expand the scope of business for NBFIs with a single line of business (monoline NBFIs). Some examples include:

- Allow e-Money service providers to operate as escrow agents and provide identity verification and authentication services (Identity Provider: IdP in the electronic-Know Your Customer (e-KYC) process).
- Allow Money Transfer (MT) and Money Changer (MC) operators to offer a broader range of services and higher transaction amount limits and provide electronic services that utilizes technologies to improve efficiency and lower costs.
- Plan to revise non-bank MT/MC licenses to allow for broader scope of businesses and services to better serve retail customers and SMEs.

17 **(1.3.2) Support the Roles and Functions of SFIs**

Collaborate with other relevant agencies to assist SFIs in closing the gaps unmet by existing market mechanisms or other infrastructures, but not in a manner that encourages them to directly compete with private players or other SFIs. Moreover, support on personnel capacity building and sharing common infrastructure among SFIs will enhance their role in closing such gaps, which should incur the least possible fiscal burden.

ISSUES FOR CONSULTATION:

- For monoline NBFIs, what businesses do you wish to undertake in the future to offer products and services that serve consumer's needs, that are currently not permitted, unclear, or restricted under the BOT's regulations?

18 In this regard, both new and incumbent financial service providers may consult the BOT, on a case-by-case basis, concerning other banking business models (which are not a virtual bank), or other financial businesses under the BOT's supervision.

ISSUES FOR CONSULTATION:

- Is the current licensing framework restricting or impeding business operations and service provision, or inhibiting competition? For example, due to the limit on the number of branches for foreign commercial bank branches, the minimum registered capital requirement, etc. Please indicate such restrictions and your suggestions.
- Are there any financial service providers, other than those mentioned above, who could potentially help promote competition in the financial sector, and serve the needs of the public and the business sector in gaining better access to financial services? For example, wholesale banks that cater to businesses by only lending to SMEs and large corporates and accepting only high-value deposits.

(2) OPEN INFRASTRUCTURE

Develop and support key domestic financial infrastructures that are efficiently utilized and accessible to service providers at reasonable and fair costs

Policy Stances

[What we wish to see] Financial and payment infrastructures are up to standard, resilient, secure, interoperable, and open to different service providers at fair prices. Such infrastructures will encourage competition in innovation, promote financial services that can better serve consumers and businesses, as well as speed up the transition to a less-cash society and a transformation towards a digital economy.

[What we do not wish to see] The financial and payment infrastructures that are inefficient, fragmented, or overly concentrated, that result in systemic financial or operational risks. Pricing structures do not reflect actual underlying costs, stifling competition on innovation and service improvement. Key financial infrastructure providers cannot be regulated as the regulators' abilities to oversee some infrastructures are undermined, which will in turn affect the system and its users.

Key policies

19 (2.1) Increase Efficiency and Accessibility of the Current Infrastructure

Promote efficient utilization of domestic payment system infrastructure by connecting and opening to different service providers, thus enabling them to compete at reasonable costs to serve needs of the public and different business segments.

20 (2.1.1) Enhance the Governance Framework

Enhance the governance framework of domestic payment system infrastructure for greater utilization and innovation by exploring different approaches that may be suited to Thailand's context. One approach is to establish a Payment Council, as has been done in other countries such as Australia and Singapore, involving various stakeholders such as commercial banks, NBFIs, consumers, regulators, and experts. They can participate in the design of payment-related policies that will later be proposed to the Payment Systems Committee (PSC), whose responsibility is to set Thailand's payments-related policies and implement such policies to achieve tangible outcomes. Moreover, a Payment Scheme agency will manage scheme rules related to payment systems and services, e.g. terms on business operation and system development, fee structure, promotion of digital payments, and supporting innovation.

Example	Examples of international approaches in the management and governance of payment system infrastructure
UK	<ul style="list-style-type: none">Payment Systems Regulator (PSR), an agency to supervise and make policies on the development of payment infrastructureMerger of large infrastructure providers (Bacs, Faster Payments, and Cheque Imaging Payment Systems) under the name Pay.UK to simplify and lower costs of operations, as well as to devise conditions, standards, terms of use, to ensure banks and NBFIs equal access.
Australia	<ul style="list-style-type: none">Australian Payments Council focuses on involving different stakeholders in the payment-related policymaking processMerger of large infrastructure service providers (Eftpos, BPAY, NPPA) under the name Australian Payments Plus to develop infrastructure that serves the needs of various types of users and other stakeholders
Singapore	<ul style="list-style-type: none">Payments Council Singapore focuses on involving different stakeholders in the payment-related policymaking process. Representatives include those from the central bank, service providers and consumers.An agency to manage the development of the national Payment Scheme to manage PayNow (a real-time payment service) to design terms and conditions of its services, e.g. fees, payment system infrastructure, dispute settlements, public relations, and promotion of use.

21 (2.1.2) Review the Pricing Structure of the Payment Systems

Review the pricing structure of payment services, particularly for cash and cheques to ensure that it is appropriately reflecting underlying costs, reasonable and fair to consumers, service providers, and developers of infrastructure. The BOT will consult with stakeholders and conclude the fee structure within 2022, and later construct a plan to adjust fees, particularly for cash and cheques.

This will serve the policy direction towards doubling the rate of decline of the current cash usage within 3 years⁴, and to reduce the use of paper cheques to less than half within 5 years⁵. During this period, digital payments will have advanced enough to scale up adoption by the businesses and households, which will aid Thailand's transition to a less-cash society.

22 During this transition, there must be efficient channels to provide payment services to those who are not yet ready to adopt digital payments.

For example, the establishments of white label smart machines and banking agents can help disburse cash in remote areas, which would help ensure efficient management at lower costs, in line with the declining trend in cash usage.

ISSUES FOR CONSULTATION:

- Do you agree with the proposal to establish a Payment Council and Payment Scheme? If not, do you have other suggestions to engage stakeholders in policy design and development of payment infrastructure?
- Do you agree with the above targets to reduce the use of cash and cheques, and the approaches to achieve them? Do you have other suggestions or ways to support a smooth transition?

23 (2.2) Support Digital Financial Services and Processes

Develop payment and other necessary infrastructures to provide end-to-end digital financial services that are compliant with international standards, interoperable, and support the development of financial innovations and services. This policy is in line with the key digital infrastructure policies of other countries, such as Singapore, India, and the UK.

⁴ Based on the current compound annual growth rate of ATM and over-the-counter cash withdrawals from the 2018-2021 period: ATM cash withdrawals: -6.50% / Over-the-counter cash withdrawals: -11.18%

⁵ Usage of paper cheques in 2026 should be below half of that in 2021.

Key digital infrastructures to enable end-to-end digital transactions
• Digital ID: An infrastructure that serves as a gateway to the digital world, through identity verification and authentication, and to perform digital transactions with ease and security.
• Digital Platform & Payment: Business transactions involving digital payments help to create digital footprints, which can be further used for other financial transactions and access other financial services.
• Data Infrastructure: Mechanisms or infrastructure that enable the public and the business sector to utilize their data collected by different financial service providers, enabling them to then choose or switch service providers at reasonable costs. Data sharing and big data utilization will also support financial innovations to their full potential.

24 (2.2.1) Develop End-to-End Digital Processes for Businesses.

Develop ‘Smart Financial and Payment Infrastructure for Business’ in collaboration with the relevant public and private entities, to enable end-to-end digital business; link data on business transactions, payments, and tax through an automated straight-through process. This aims to reduce costs, improve efficiency, and create digital footprints to improve access to funding at reasonable costs. In addition, a high-value payment system will be developed to accommodate business and capital market transactions.

25 (2.2.2) Develop Retail Central Bank Digital Currency

Develop and launch a pilot test for Retail Central Bank Digital Currency (Retail CBDC), a digital form of central bank money. Retail CBDC is an infrastructure that aims to provide open access to more service providers, allowing them to innovate through the implementation of new technologies. The objective of Retail CBDC is to transition Thailand to a digital economy with a safe, efficient, and low-cost option to utilize digital currencies. The pilot test is expected to be launched around the end of 2022.

Payment	Objective and Positioning
Cash/paper cheques	Inclusive and widely accessible payments to accommodate those who are not ready to use, or do not have access to digital payments.
Digital payment	Enhanced efficiency and ease in payments for the public or businesses with bank accounts or e-money wallets.
Retail CBDC	Open infrastructure that supports the development of cutting-edge innovations in the financial sector and transform Thailand to a digital economy with a safe, efficient, and low-cost option to utilize digital currencies.

26 (2.2.3) Develop Standards and Support Interoperability

Support the development of other necessary digital infrastructures, standards, and interoperability of key infrastructures in collaboration with the relevant agencies including:

- 27 (i) Digital ID infrastructure that is interoperable across different platforms and open to various service providers, enabling them to verify their customers' identities using reliable data sources at reasonable costs. This will in turn allow customers to verify their identity to use financial services conveniently and securely. The initiative includes verification and authentication of corporate digital IDs through the National Digital ID (NDID) infrastructure, in collaboration with the Department of Business Development and Electronic Transactions Development Agency (ETDA). Use case testing for corporate entities (such as for opening bank accounts) is set to begin in 2022.
- 28 (ii) Digital signature infrastructure that is low-cost, user friendly, and universal to various product designs, for example ready-to-use platforms and digital financial contracts used in digital lending and digital debt-restructuring.

29 (2.2.4) Promote Digital Literacy

Promote digital literacy and encourage public and private sectors to prioritize using digital payments over cash and cheques by collaborating among public agencies, industries, and financial sector. A working group on promoting digital literacy and payments is an example of an integrated effort to create understanding and promote the use of digital payments as a national-level agenda, to ensure concerted and consistent communications and efforts that result in tangible outcomes.

This issue will be further discussed in the Payments System Directional Paper, which will be published in March 2022.

ISSUES FOR CONSULTATION:

- What financial service use cases do you wish to see on Retail CBDC? e.g. programmable conditional payments for welfare distribution based on recipients' occupations or types of goods and services purchased.
- Do you view that the existing digital financial infrastructures (e.g. Digital ID) can efficiently accommodate digital financial services? If there is room for improvement, please state your suggestions.

30 (2.3) Develop Credit Guarantee Mechanisms

Develop credit guarantee mechanisms to meet various funding needs, by collaborating with other public agencies to establish a General Credit Guarantee Facility (GCGF). The GCGF aims to provide better access to funding sources for businesses, especially SMEs. The design will accommodate different stages in their business cycle, those facing liquidity problems as affected by a financial crisis, and those seeking infrastructure financing. Key characteristics of the GCGF are the following: First, it can guarantee loans issued by financial institutions and NBFIs. Second, in addition to loans, the facility covers various types of funding that are more suitable for start-ups, medium-sized enterprises who are ready to enter the capital market, and large corporates that seek to form joint ventures or issue debts or equities. Third, the GCGF can provide support for investments in line with the country's long term strategic directions and economic development

plans. The enhancement of credit guarantee mechanisms, especially in assessing credit risk of a debtor or the guaranteed project, can ensure that risks are effectively managed, and the guaranteed fees are risk-based consistent with the debtor or the project.

ISSUES FOR CONSULTATION:

- What do you view as the main obstacles in the existing credit guarantee mechanisms? e.g product types, eligibility criteria based on size and business sector, conditions, fees, guarantee coverage ratios etc. What should be improved, and is it in line with the GCGF initiative outlined above?

(2) OPEN DATA

Enable better utilization of data and data sharing mechanisms among service providers

Policy Stances

- [What we wish to see]:** A data ecosystem enables the public and the business sector to utilize their data collected by different service providers in choosing services or switching service providers at reasonable costs. Moreover, data can be shared and utilized to their full potential for big data analytics to develop financial innovations and services, allowing the public and businesses to access better financial services.
- [What we do not wish to see]:** The use of data results in breaching of data governance principles, violation of data owner's privacy, misuse of data, lack of security or data leakage prevention mechanisms, restrictive conditions or excessively high fees that hinder data owners from accessing and utilizing their own data.

Key policies

31 (3.1) Promote Policies on Opening Banking

Implement Open Banking policies that enable data owners to easily transfer their own data from one service provider to another at reasonable costs, with no barriers in choosing or switching their service providers. Open Banking requires developing data exchange mechanisms, in collaboration with financial institutions, that allow data owners to give consent to financial service providers to disclose or send their data to third party providers. **Also, setting standards for Application Programming Interface (API), data and security are necessary to enable the transfer of data between service providers.** This will ensure operational standards to share data in an efficient, secure, and quick manner without imposing restrictive conditions or charging excessively high fees that would hinder data owners from accessing and utilizing their own data. A pilot program was launched in January 2022 with bank statement transactional data (Digital Statement: dStatement) with future plans to expand the scope of data exchanges to other service providers in the financial and non-financial sectors e.g. insurance premium payments, utility bill payments, etc.

More information will be provided in the Open Banking Directional Paper which will be published around Q3 of 2022.

32 **(3.2) Support the Linkage and More Effective Use of Micro-Level Data**

Promote database connectivity and the effective utilization of micro-level data for analytics and development of financial innovations and services. A collaboration among private and public agencies will be set up to **develop mechanisms, infrastructure and legal framework amendments to facilitate the linkage of micro-level data from various agencies and form big data comprising both financial and non-financial data** (e.g. behavioral data on money transfers and payments). Such extensive database will be useful for conducting comprehensive data analytics, supporting public policy initiatives, and developing financial innovations and services. For example, a data-driven, risk-based models using the borrower's behavior and debt serviceability data can help determine interest rates for thin-file borrowers and SMEs with insufficient credit history, thus allowing them to have better access to formal lending.

33 In addition, micro-level database must be subject to proper data governance and must not violate data privacy rights. For example, only anonymized and pseudonymized data are available for third parties to access for analytics, with mechanisms or strict security procedures to prevent data leakages.

ISSUES FOR CONSULTATION:

- As a consumer, in which use cases do you wish to see the implementation of Open Banking as your top priority, e.g. personal financial management, lending, insurance, other non-financial services?
- Do you have concerns over the existing consent management mechanisms in assuring that your data will not be used through Open Banking for purposes you do not consent to? If yes, what should be improved?
- For what purpose(s), do you see the benefits of compiling micro-level databases into a national-level central database? What do you see as the main obstacles in pursuing this initiative? For example, the absence of a lead authority or regulations that allow for easy data connectivity. Please suggest possible solutions.

Section 3

Managing Transition towards Sustainability

34 The BOT is giving high priority to the issue of sustainable growth, especially that related to the environment, which has rapidly gained grounds and materiality more than previously anticipated. In this regard, the BOT is taking actions to steer the financial sector to incorporate environmental considerations into their risk assessments, support businesses in coping with environment-related risks and transitioning away from environmentally unfriendly activities without disrupting the economy. Another focus is the issue of inequality which is a key structural weakness in Thailand. The BOT will need to ensure that its policies can enable households and vulnerable groups to adapt to the new global trends. Two proposed directions are as follow.

35 ENVIRONMENTAL SUSTAINABILITY

Steer the financial sector to systematically incorporate environmental considerations into their operations and to offer financial products that facilitate businesses adaptation and transition away from environmentally unsustainable activities without disrupting the economy. Such transition is especially important for businesses that have yet to incorporate climate change into their operations, which constitutes quite a significant proportion in developing countries like Thailand. These aspirations are in line with the nation's goal of achieving carbon neutrality by 2050 and net zero emission by 2065. The BOT, in collaboration with other relevant agencies, seeks to establish the key building blocks to support a green financial ecosystem, e.g. developing a national green taxonomy and issuing standard practice for financial institutions to integrate environment-related risks and opportunities into their operations as appropriate.

36 HOUSEHOLD FINANCIAL HEALTH

Encourage the financial sector to play a part in facilitating households to make a smooth transition towards digital finance and helping heavily indebted households manage their debts in a sustainable fashion. The policy initiatives include promoting digital financial literacy among households so that they can effectively adopt digital financial services and offering sustainable solutions to household debt problem through measures targeted at all stages of debt (i.e. before, during, and after being indebted). The latter includes

- (1) enhancing financial knowledge and skills to bring about a change in consumer financial behavior;
- (2) ensuring responsible lending to prevent household over-indebtedness;
- (3) establishing a holistic mechanism to resolve debt problems so that households can restructure the debt to a level that is more manageable over the long run. This includes the debt they owe to financial institutions both within and outside the BOT's supervision;
- (4) collecting data related to personal credit information from various financial service providers or agencies and utilizing those data to enhance retail lending credit processes.

To ensure that financial problems are resolved in a more sustainable manner, the measures should be implemented in tandem with other measures on raising income and promoting savings for emergencies and retirement. The principles and key policy actions underpinning these two proposed directions are as follow.

37 (1) ENVIRONMENTAL SUSTAINABILITY

Encourage the financial sector to incorporate environmental considerations into their operations in a systematic manner and to offer financial products that facilitate businesses adaptation and transition away from environmentally unsustainable activities by establishing the key building blocks for a green financial ecosystem in collaboration with other relevant agencies.

Policy Stances

- [What we wish to see]** The financial sector can assess environment-related risks and opportunities in their day-to-day business operations and have available the financial products and services needed to promote and support business transition. The financial sector plays a part in the development of infrastructures necessary for the transition as part of a whole-of-government approach towards a common national goal.
- [What we do not wish to see]** The financial sector is not incentivizing or is posing obstacles to the needs of the economy. For example, the financial sector underestimates environment-related risks and incurs significant losses in their lending and investment portfolios as a result. On the contrary, the financial sector could also over-estimate environment-related risks so much that it incurs other risks (1) the financial sector pushing too hard to promote eco-conscious businesses thus cultivating large demand for investment in those businesses to the point that asset prices rise too quickly beyond what is justified by their fundamentals i.e. 'green bubble'; and (2) the financial sector abandoning businesses still in transition too soon that the economy could not adapt. In addition, public policies, both in the financial sector and the real sector, are not aligned in such ways that the national objective might not be achieved as planned.

Key policies

38 (1.1) Develop Thai Taxonomy

Promote the development of a national green taxonomy. The Thai Taxonomy will establish the definition of what economic activities are considered 'green' or 'in transition' in a manner that is appropriate and suitable to Thailand's context. The taxonomy should help identify and promote allocation of resources towards those activities. Emphasis would initially be placed on industries that lag behind in the transition, especially those that emit large amounts of greenhouse gas. The Thai Taxonomy will also be aligned with the ASEAN Taxonomy as well as other internationally recognized taxonomies such as the EU Taxonomy and the Climate Bonds Taxonomy.

39 (1.2) Set Disclosure Standards

Set disclosure standards so that financial institutions could show their commitments and actions on environmental sustainability in a manner that is clear and consistent with international standards such as those recommended by the Task Force on

Climate-related Financial Disclosures (TCFD). The BOT will also collaborate with other regulatory agencies to encourage the adoption of disclosure standards among other financial players as well as non-financial businesses to make environment-related data more widely available in Thailand. The BOT will also consider the possibilities of pushing forth the creation of data platform to facilitate data connectivity and information sharing between different agencies, both within and outside the financial sector, to support the analyses and assessment of climate-related risks and opportunities.

40 **(1.3) Promote Financial Products to Support the Transition**

Actively encourage the introduction of new financial services and products that would help businesses adapt and transition away from activities that are environmentally unsustainable. The BOT will collaborate with financial institutions to develop good practice guidelines including the conduct of scenario analysis as well as climate stress testing. This will encourage financial institutions to (1) materially incorporate environmental consideration and risks into their risk management practices and day-to-day operations in a systematic manner; and (2) design financial products and services that reflect those risks and support businesses in the transition towards more sustainable practices.

41 **(1.4) Create the Right Incentive Structures**

Put in place mechanisms or measures to help alleviate the burden or cost of adjustments for financial institutions and businesses will facilitate a timelier transition. Particularly, the aim is to increase SME's access to the financing they need to adjust and transition to a more sustainable practice. One example is Singapore's grant scheme to help reduce the validation expense of green loans application.

42 **(1.5) Build Up Capacity of Financial Sector Personnel**

Build competencies and skills in the financial sector. The BOT will collaborate and exchange views and experiences with other financial regulators and banking associations to build up the capacity of financial sector personnel so that they are equipped with competencies and skills to utilize the tools, appropriately assess climate-related risks and opportunities, and learn from experiences of experts in the fields, relevant agencies, and international communities.

43 For these actions to yield concrete outcomes, it will be necessary to have common objectives at the national level as well as integrated efforts from all parties involved as seen in the EU, China, South Korea, and Singapore. The BOT will therefore push for the implementation of these actions together with government agencies, the financial sector, businesses, and the general public in order to achieve our shared national goals.

Further details can be found in the directional paper on "Managing Transition towards Greater Environmental Sustainability" that will be released in Q2 2022.

ISSUES FOR CONSULTATION:

- Do you agree with the BOT's proposals? Which policy actions should be expedited? What other mechanisms should be implemented to ensure that the cost burden faced by businesses making those adjustments are appropriate?
- Do you have any further suggestions on how to foster more effective collaboration between the related agencies in helping businesses adjust to environmental risks? E.g. adopting common green taxonomy for both the financial and real sectors

44 (2) HOUSEHOLD FINANCIAL HEALTH

Encourage the financial sector to play parts in facilitating households a smooth transition towards digital finance and support the over-indebted households to manage their debts sustainably.

Policy Stances

(What we wish to see) Households have good financial discipline and digital financial literacy and are well aware of new forms of financial fraud.

(What we do not wish to see) Heavily indebted households are unable to adapt over the long-term, or resort to incurring more debt than they can afford to repay leading to further debt overhang. Households with the capacity to service debt are unable to access credit as much as they should or incur more debt than they could afford.

Key policies

45 (2.1) Promote Financial Literacy

Promote financial literacy and digital financial literacy to bring about a change in people's financial behavior and help them keep up with development of new technologies and financial innovations.

(2.1.1) Develop a database for financial and digital finance literacy. In collaboration with relevant agencies, this knowledge resource should be easily accessible, up to date with latest financial frauds, and tailored to the needs of the target groups.

(2.1.2) Encourage financial service providers to play a role in incentivizing good financial discipline among consumers such as saving for retirement or making debt repayment on time or before the due date.

ISSUES FOR CONSULTATION:

- What tools or incentives would make people to repay their debts on time and to make regular savings? What could financial service providers do to support these actions? E.g. offering financial products or loan terms that are simple, convenient, and could encourage people to repay their debt or to save more when they receive more income.

46 (2.2) Ensure Responsible Lending Practices

Ensure responsible retail lending practices that account for borrowers' repayment ability to prevent over-indebtedness. Under BOT's supervision, financial institutions and retail credit providers should ensure that their lending practices take due consideration to ensure that borrowers would still have enough disposable income to cover the basic spending needs. Moreover, households should not become overindebted especially from borrowing for unnecessary consumption spending. For instance, the total debt service ratio (DSR) should be a priority consideration, especially when lending to the vulnerable groups. This is also the case for when the borrower could arrange to have the debt service amount deducted from their salary income in advance. The BOT will closely monitor developments in household debt and consider the need for macroprudential measures to help slow down borrowing for unnecessary consumption spending once the economic recovery gains traction.

47 (2.3) Promote Holistic Debt Resolution

Promote holistic mechanisms for resolving debt so households can adjust and make a recovery over the longer-term without returning to insolvency. The BOT will collaborate with related agencies to devise a plan that would bring about sustainable solutions for households that owe large amounts of debt to financial service providers or other bodies such as saving cooperatives, governmental employees (e.g. loans benefit for civil servants), and the Student Loan Fund. This includes (1) designing repayment plans that are appropriate to borrowers' ability to service debt over the longer-term, whilst retaining enough disposable income after debt repayments; (2) adjusting regulations or loan terms to reduce and ensure fair debt burden such as by applying the repayments to the principal amount first; (3) offering terms that incentivize borrowers to continue repaying their debts on time and complete debt repayments earlier such as by reducing the principal owed for those with good repayment track record.

48 (2.4) Promote the Collection of Household Credit Data

Promote a collection of comprehensive credit data issued by various financial service providers or agencies and utilization of those data to enhance retail credit underwriting. The data should support creditworthy households to have access to credit with risk-based pricing. Those data should also be utilized in tackling insolvency and reducing over indebtedness. One possible solution in the short term is to collaborate with relevant agencies to encourage non-bank retail credit providers and key saving cooperatives to become members of the National Credit Bureau (NCB). Over the longer-term, the databases of various agencies should be connected into one large database that financial service providers can leverage to develop and offer financial products that better fit the needs and capabilities of the borrowers. Such data should also be further used in developing a scoring system to promote good financial behavior and credit culture in the financial system. (*Details as outlined under Open Data in Section 2, part (3)*)

Section 4

Shifting from Stability to Resiliency

- 49 Players in the financial sector are leveraging on new technology and data to remain competitive and to offer better services to their customers while also facing new forms of risks. Amid such developments, the BOT is shifting towards a more flexible regulatory framework that allows financial service providers to capitalize on the digital trend while ensures that they could response to significant and emerging risks in a timely manner. Two proposed directions are:

GREATER FLEXIBILITY AND LESS REGULATORY BURDEN

- 50 Improve the supervisory framework to address different risk profiles of a more diverse service providers and review regulations that could hinder their abilities to adapt to the new financial landscape. Key policies include:

Key Policies
Apply a risk-proportionality approach to the supervision of service providers that are becoming more and more diverse , with the service providers being responsible for their own risk management approach and proving to the supervisory agency that their risks are appropriately managed according to their risk profile.
Assess regulatory impact and reduce regulatory burden on service providers , including promoting the use of risk-based pricing which will serve as basis in the review of interest rate ceiling for retail lending and streamlining the operating procedures under the Regulatory Sandbox.

TIMELY AND EFFECTIVE SUPERVISION OF EMERGING RISKS

- 51 Strengthen the supervision of significant and emerging risks, including those posed by the systemically important service providers in the new financial landscape. Key policies include:

Key Policies
Discourage the adoption of digital assets as means of payment for goods and services in replacement of Thai baht. Such development would potentially create adverse impact on financial stability and the overall economic system.
Ensure that the changing risks associated with the restructuring of financial business group affiliated with commercial banks and their expansion of business scope into technologies and digital channels are appropriately account for in the supervisory framework to protect depositors and consumers.
Supervise NBFIs based on their risk profiles and their systemic importance (risk proportionality) , without creating unnecessary regulatory burden, to limit the potential adverse impacts on financial stability and consumers at large.

The rest of this section provides further details on the guiding principles and policies to facilitate the shift from stability to resiliency.

(1) GREATER FLEXIBILITY AND LESS REGULATORY BURDEN

- 52 Improve the supervisory framework to address different risk profiles of a more diverse financial service providers and review regulations to lessen the unnecessary burdens on service providers and allow them to innovate and compete in offering better financial services.

Policy Stances

[What we wish to see]: A flexible supervisory regime with no significant regulatory burdens on financial service providers. Supervision framework is adequately flexible for service providers to adapt and utilize new technology and digital infrastructure to enhance financial services.

[What we do not wish to see]: Ineffective and obsolete supervision that fails to account for significant, emerging risks as well as risks posed by systemically important service providers in the new financial landscape. This could lead to severe disruptions and adverse impact on the economic and financial stability, depositors, and consumers.

Key policies

(1.1) Apply a Risk-Proportionality Approach for Supervision

Apply a risk-proportionality approach to the supervision of increasingly diverse service providers. The BOT seeks the optimal combination of (i) a rule-based approach to set standards or minimum requirements and (ii) a principle-based approach that enables financial service providers to adopt risk management processes suitable to their risk profiles. Moreover, service providers will carry the burden of proof to demonstrate their risk management abilities to the supervisory agency according to the degrees and types of risks pertaining to the service providers.

53 (1.2) Review Regulations that Cause Excessive Regulatory Burden

Review regulations that are currently limiting the service providers' abilities to adapt, compete, innovate, or serve customers better. Examples include promoting risk-based pricing on retail lending rates before a review to lift the interest rate ceiling for retail loans. As a result, borrowers whose risk levels are below the ceiling rate will face lower interest rates while also expanding credit access to those with higher risk. Another revision aims to review the Regulatory Sandbox to improve clarity on the criteria and processing time to reduce burdens on participants. On this front, the BOT is scheduling hearings and consultation in the first half of 2022 with relevant parties, such as the Thai Bankers' Association and the Association of International Banks.

54 (1.3) Establish an Exit Mechanism

Establish an exit mechanism that allow financial service providers facing business challenges or are unable to compete, to cease operations without disrupting the financial system or inflicting large-scale losses to the economic and financial system, depositors, and consumers. The BOT aims to set up conditions and procedures for the service providers to return their licenses or registration certificates and exit in an orderly fashion. In addition, there will be a license/

certification revocation process for the service providers who do not conduct businesses appropriately such as those with prolonged period of inactivity or willful non-compliance.

ISSUES FOR CONSULTATION:

- What regulatory revisions will help financial service providers better adapt and be more competitive to innovate and meet customer needs?
- What regulatory adjustments can be made to lessen regulatory burdens or excessive costs to financial service providers?
- Please provide suggestions on how to put risk-based pricing into practice

55 (2) TIMELY AND EFFECTIVE SUPERVISION OF EMERGING RISKS

Strengthen the supervision of significant and emerging risks, including those posed by the systemically important service providers in the new financial landscape. The timely and effective supervision would alleviate negative impacts and help avert widespread disruption to the economic and financial system, depositors, and consumers.

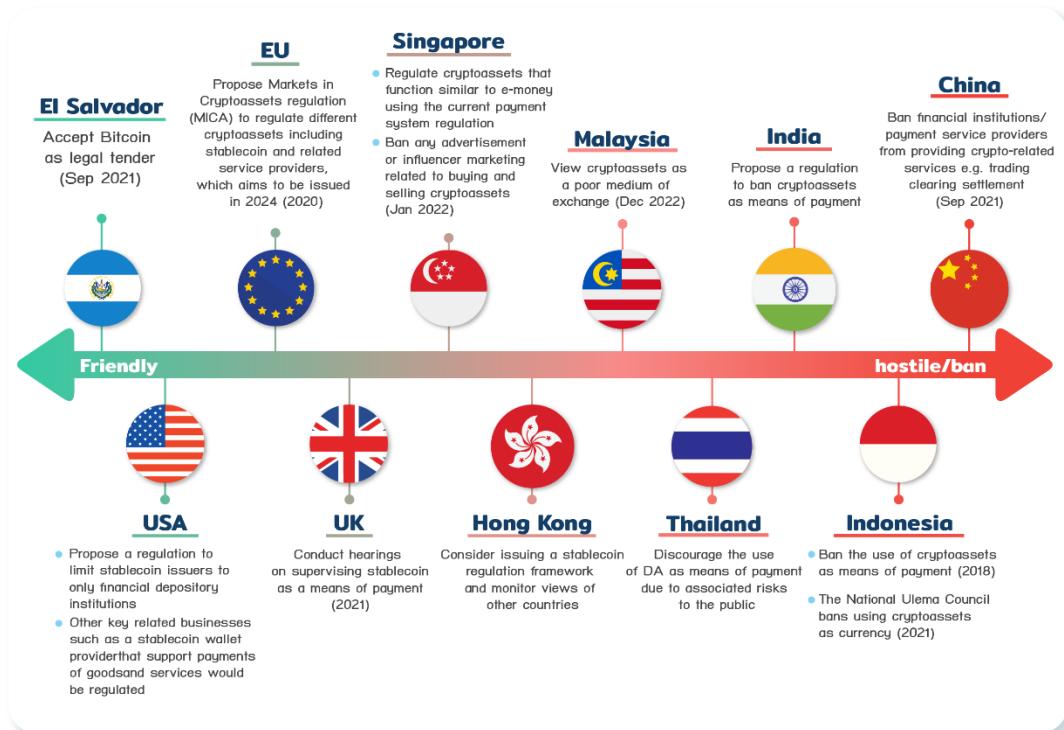
Key policies

56 (2.1) Discourage the Adoption of Digital Assets as a Means of Payment

The BOT discourages the adoption of digital assets as a means of payment (MOP) for goods and services. A wide-scale replacement of the Thai baht by digital assets would create a new unit of account and adversely affect the public and the economy in several aspects namely:

- (i) **cost and security of both payers and receivers since digital assets are subject to high price volatility** and the lack of security standards makes them well suited for facilitating money laundering;
- (ii) **payment systems stability since digital assets can cause fragmentation and redundancy** within the payment systems weakening their efficiency and increasing transaction costs; and
- (iii) **financial stability and management of domestic financial conditions.** The absence of an organization with the ability to inject liquidity in the form of digital currency during crisis, for instance, can compromise the financial stability.

This cautionary stances and policies towards digital assets are shared among regulators in several jurisdictions such as the US, Europe, South Korea, Singapore, and Malaysia.



57 Nonetheless, for certain digital asset-related services and systems that can enhance the payment systems and financial innovation, the BOT would seek to provide suitable supervision to protect consumers and address risks to the financial and payment systems stability. Examples of the services under BOT's consideration include the issuance of Thai baht-backed stablecoins. The oversight would consider the nature of services provided and their associated risks in the following dimensions:

- scope of businesses;
- stability mechanisms; and
- maintenance of IT system security and data privacy.

58 **The use of digital assets in financial institutions or associated business group.** Financial institutions or associated business groups who seek to adopt decentralized computing technology (e.g. blockchain) that requires the holding of digital assets to increase efficiency in financial services or banking affiliates looking to conduct business related to digital assets can consult with the BOT on a case-by-case basis. Considerations will be based on the overall benefits, operational guidelines and risk management practices including proper protection of depositors and consumers. It must be noted that the applications or business models related to digital assets must not support their use as means of payment (MOP) for goods and services. (International experiences regarding the investment in digital assets and the regulatory guidelines for financial institutions and associated business groups in conducting businesses related to digital assets are shown in Box 1).

Box 1: Investment in digital assets and its related businesses and regulatory guidelines for conducting digital asset businesses by financial institutions and associated groups

Recently, there has been strong interest by the financial institutions and associated business groups in Thailand to adopt new technologies and innovation for better financial services, including businesses related to digital assets*. In other countries, financial institutions have limited investment in digital asset related businesses of which most are involved in digital asset custody business. Regulators in many countries are still considering licensing and regulatory guidelines for digital asset investment and related businesses.

Investment in digital assets and related businesses by financial institutions in other countries

Financial Institutions	Headquarters	Total Asset (Million THB)	Total Capital (Million THB) End of 2020	Investment in digital asset related businesses (Million THB) August 2021	% of investment in digital asset related businesses of the total capital
Standard Chartered	London, United Kingdom	26,194,800	1,893,994	12,616	0.67%
BNY Mellon	New York, USA	15,604,000	893,346	10,657	1.19%
Citibank	New York, USA	75,032,000	772,863	9,263	1.20%
UBS	Zurich, Switzerland	37,383,200	2,032,703	8,831	0.43%
BNP Paribas	Paris, France	102,289,200	4,282,285	7,835	0.18%
Morgan Stanley	New York, USA	37,051,200	3,227,472	7,769	0.24%
JPMorgan Chase & Co.	New York, USA	112,415,200	8,539,970	6,839	0.08%
Goldman Sachs	New York, USA	38,611,600	3,519,499	6,773	0.19%
Barclays	London, United Kingdom	61,154,400	3,050,113	6,507	0.21%
MUFG	Tokyo, Japan	113,145,600	5,551,438	6,142	0.11%
ING	Amsterdam, Netherlands	38,080,400	2,315,022	5,644	0.24%
BBVA	Bilbao, Spain	26,427,200	2,187,415	5,544	0.25%
Nomura	Tokyo, Japan	14,342,400	858,742	4,847	0.56%
Average				7,636	0.43%

Source: [Blockdata](#), calculated by BOT

Regulatory guideline by country: Business Scope of Digital Assets by Financial Institution Groups



Example includes exchange, broker, dealer, investment advisor, FA/ICO Portal (due diligence), custodian, private fund, holding/investment transactions, digital asset/stablecoin issuance.

Source: Official regulators' websites

* Thailand ranked 12th out of 154 countries with the most transactions, investments, and spending via cryptocurrency
(Source: <https://go.chainalysis.com/2021-geography-of-crypto.html>)

ISSUES FOR CONSULTATION:

- What roles – except for as means of payment (MOP) – can digital assets play in enhancing financial services and innovation? What are appropriate ways to manage associated risks, such as those pertaining to consumer protection, IT system security, and data privacy?

59 (2.2) Supervise the Financial Business Groups of Commercial Banks

Appropriate supervision of commercial banks' financial business groups, especially those undergone organizational restructuring as part of the effort to leverage new technologies and digital infrastructure. These include FinTech or e-commerce platforms that are connected to financial services.

60 (2.2.1) Enhance Governance and Risk Management

Enhanced supervision of corporate governance and risks of financial business groups, using risk-based approach and considering their significance to the respective commercial banks and their financial business group. Specifically, attention would be paid to roles of boards of directors of holding companies that are also parent companies with regards to risks oversight and prevention of any conflict of interest. Another area of focus is supervision of evolving IT/cyber risks undertaken by firms within the financial business groups which seek to capture opportunities presented by new technology and digital channels. The IT/cyber risk supervision framework for NBFIs would correspond with their risk profile and would be under the same standard that financial institutions comply to.

61 (2.2.2) Supervise the Financial Business Groups

Supervise transactions within financial business groups as well as between commercial banks and their respective business groups. The oversight will monitor, for instance, funding or loan provision by commercial banks; shared distribution channels such as branches, digital and other sales channels; shared system; and customer data utilization to prevent the transmission of risks between the two entities. The goals are to address threats to the stability of both the business groups and deposit-taking commercial banks, as well as to prevent conflict of interest or unfair treatment of consumers.

62 (2.2.3) Collaborate with Relevant Supervisory Authorities

Collaborate with relevant supervisory authorities to (i) to develop framework for supervising and monitoring new dimensions of risks associated with financial business groups, which have implications on the financial system stability; and (ii) to outline appropriate consumer protection framework.

63 (2.3) Enhance Supervision of Systemically Important NBFIs

Extend the regulatory purview to include non-bank FIs (NBFIs) and their business groups that provide a wide range of financial services and are systemically important. This is intended to mitigate transmission of risks and prevent abuse of market power that could lead to significant adverse impact on the financial system and consumers at large.

64 (2.3.1) Assess Risks to Regulate NBFIs

Assess risk and systemic importance of NBFIs and their business groups offering diverse financial services. The evaluation will consider their:

- (i) size;
- (ii) interconnectedness and potential risk spillovers to other sectors in the financial system, for example, through large scale bond issuance that can pose risks to the public;
- (iii) the significance of the service providers, both in terms of the degree of substitutability and their potential abuse of market power. For instance, a major creditor in a certain segment or a platform provider with many active users may be regarded as important players; and
- (iv) complexity of potential threats such as those associated with business groups with complicated structure or high volume of complex transactions.

65 (2.3.2) Supervise NBFIs and Their Business Group Offering Diverse Financial Services

More vigilant supervision of systemically important NBFIs, with particular focus on the prudence dimension. These include corporate governance, risk management, maintenance of capital buffer, and preventative measures and contingency plans for stress period designed to mitigate adverse impacts on the financial system and consumers. Consolidated supervision of systematically important NBFIs' business groups with diverse financial services would also be considered to (i) ensure prudence and limit risk transmissions within group that could potentially undermine stability of the overall business group or significantly important NBFIs within group as well as to (ii) prevent the abuse of market power, conflict of interest, and unfair treatment of consumers. The consolidated approach is consistent with those adopted or under considerations of supervisory agencies in China, the US, and Europe.

66 (2.4) Supervise Retail Lending Service Providers

Apply activity-based supervision of major retail lenders in terms of consumer protection and macroprudential policy associated with household debt. A supervision guideline for the currently unregulated non-bank retail lenders with high volume of transactions and rapid growth will be issued such as hire-purchase and leasing companies, so they will be under the same supervisory framework as that of commercial banks and regulated non-bank retail lenders.

67 (2.5) Set Supervisory Standards of IT/cyber risks

Apply the same supervisory standard of IT/cyber risks as that of financial institutions to NBFIs without incurring unnecessary burden and building human capital on IT/cyber.

68 (2.5.1) Apply Risk-Based Approach for IT Supervision

Regulate NBFIs under the supervision of the BOT with a standardized framework for IT/cyber risk supervision and appropriate risk management that suits their risk profiles. The supervision aims to elevate NBFIs' preparation for increasing

IT/cyber risks and limit spillovers to other sectors. At the same time, excessive regulatory burden, and costs for the NBFIs would be avoided by (i) allowing them to demonstrate or prove their ability to manage IT/cyber risks through self-assessment exercises and (ii) collaboration with other regulatory authorities to lessen compliance cost and burdens of complying to multiple IT/cyber regulations, for instance, accepting single report submission instead of requesting multiple submissions to each regulatory agency.

69 (2.5.2) Build IT/Cyber Talents

Facilitate IT/cyber capacity building by building human capital on IT/cyber will be leveraged on close collaboration among key financial agencies, e.g. Thailand Banking Sector CERT (TB-CERT), to raise IT/cyber risk awareness among boards and high-level executives of financial institutions. Moreover, the BOT will cooperate with other national agencies such as National Cyber Security Agency (NCSA) to further strengthen IT/cyber expertise and develop a talent pool for the financial sector.

Section 5

Conclusion – What Success Looks Like

70 The financial sector leverages on technology to offer better financial services and facilitate the transition to a digital economy under the Open Competition, Open Infrastructure and Open data approaches. We expect to see:

- (1) Payment services that are efficient, convenient, quick, reasonably priced and with options to serve the needs of different consumer and business segments. There are end-to-end digital procedures for commerce and payment transactions, such as through the use of e-commerce platforms and mobile phones. Meanwhile, digital literacy should be promoted, and service channels should be provided for those who are not ready to adopt digital payments during the transition to a less-cash society; the aim being to double the rate of decline in cash usage within 3 years and to reduce the use of paper cheques to less than 50 percent within 5 years.
- (2) Financial services that are fair, accessible, and better suited to the needs of consumers without encouraging over-indebtedness through promoting competition among incumbents and new service providers. Financial service providers can
 - (2.1) Utilize data from digital transactions (digital footprint) in credit underwriting decisions and other financial services to provide the public and private sectors with more access to financial services in a more convenient, efficient, suitable, and fair manner.
 - (2.2) Utilize big data, digital channels, and technologies to develop and improve financial services, including having credit guarantee mechanisms that meet the business sector's various funding needs, to provide consumers with financial services that better meet their needs with risk-based pricing; and enabling capable but constrained SMEs and households (such as those with insufficient credit history) to access formal funding sources.

71 The financial sector can help support transitions amid rapidly emerging digital and sustainability trends, given the establishment of key building blocks that support the green financial ecosystem and holistic measures to ensure that vulnerable households can adapt and stay viable by:

- (1) Assessing environmental risks and opportunities as an integral part of their operations, while remaining resilient to the long-term impact of environmental issues;
- (2) Offering financial services and products that support the transition away from environmentally unfriendly economic activities, with businesses being sufficiently funded and able to mitigate any negative impact in a timely manner, particularly for businesses in transition;
- (3) Disclosing high-quality and standardized environment-related information to enable stakeholders to better manage risks and to support investment and loan approval decisions; and
- (4) Playing a key role in helping vulnerable households stay viable and sustainably adapt to the new world setting, including holistic debt problem solutions to help over-indebted households manage their debt in

the long term, build financial immunity and promote financial and digital literacy. This should help households access formal-sector financial services and rely less on informal debt and manage their personal finance more efficiently.

- 72 The financial sector innovates and provides better financial services, as well as manage key and emerging risks in a timely manner and keeping pace with the rapidly changing environment. The BOT regulations are more flexible and do not place undue regulatory burden on financial service providers.

We expect that:

- (1) The BOT's regulations do not create unnecessary burden to the adaptability and competitiveness of the financial service sector.
 - (2) Financial service providers are accountable for and can conduct, sound risk management, and are subject to risk-based supervision.
 - (3) Supervision of key and emerging risks are timely and efficient, able to address policy implementation gaps and mitigate their impact on economic and financial stability as well as consumers at large. Key risks include IT and cyber risks, risks posed by digital assets on financial and payment system stability, risks from financial business groups that undergo organizational restructuring to expand their scope of business to include technologies and digital channels that may be linked to, or provide, financial services.
- 73 In order for the repositioning of the financial sector to achieve the above outcome, it is important to incorporate opinions from all sectors to jointly determine the appropriate direction and drive action that would yield concrete results. The BOT welcomes comments and suggestions from all sectors to ensure that the directions and policies appropriately serve the needs of all stakeholders.

Annex

Summary table of policy directions and guidelines

Policy direction #1: Leveraging on Technology and Data to Drive Innovation:
providing opportunities for the financial sector to leverage on technology and data to drive innovation and enhance services for consumers

(1) Open Competition: both new and existing players can offer new services and develop financial innovation

KEY POLICIES	ACTION PLANS
(1.1) Allow both new and incumbent players to establish a virtual bank	<ul style="list-style-type: none"> Open for both new and incumbent service providers to apply for a virtual bank license and compete to offer their services in new forms of financial services and innovations that better serve consumers' needs. The BOT will publish a consultation paper concerning guidelines on virtual bank licensing framework within the first half of 2022.
(1.2) Offer greater flexibility to financial institutions in conducting their business	<ul style="list-style-type: none"> Allow more flexibility regarding the business scope of financial institutions so that the existing players can better compete, innovate, and meet consumer needs. For instance, commercial banks will be allowed to invest in FinTech without limit, excluding digital assets.
(1.3) Promote the role of non-banks to help bridge gaps in the financial system efficiently	<ul style="list-style-type: none"> Expand the scope of business for monoline NBFIs to help close the gaps and improve financial services. For example, e-money service providers may also be escrow agents, while Money Transfer (MT) and Money Changer (MC) can adopt technologies to run their services electronically in order to increase efficiency and reduce costs. Coordinate with other government agencies to encourage specialized financial institutions (SFIs) to fill gaps unmet by market mechanisms and infrastructures without directly competing against other financial service providers. SFIs will also be given support for their personnel capacity building and the sharing common financial infrastructure so they can most effectively fill existing gaps in the financial system while incurring minimal fiscal burden.

(2) Open Infrastructure: allowing service providers to access financial infrastructure with fair and reasonable costs, as well as promoting development and the effective use of such infrastructure in Thailand

KEY POLICIES	ACTION PLANS
(2.1) Push forward the effective use of domestic payment infrastructure and promoting its interoperability to create a level playing field where all service providers can compete at reasonable costs	<ul style="list-style-type: none"> Outline the landscape and enhancing governance structures to enable Thailand's payment infrastructure to best suit the socio-economic context of the country, where all can reap the benefits and create innovations in the most efficient and cost-effective manner. Stakeholders from both the public and private sectors will be able to participate in the policy design. Review the price structure of payment services, especially cash and cheques, so pricing better reflects their true costs and is fair to all parties, i.e. consumers, service providers and infrastructure investors. In the meantime, implement a policy

KEY POLICIES	ACTION PLANS
	<p>to double the rate of decline in cash usage within 3 years and reduce the use of paper cheques to reach less than 50% within 5 years, as well as provide appropriate channels to offer payment services to those who are not yet ready to adopt digital payment during the country's transition to a less-cash society.</p>
(2.2) Develop necessary infrastructure to improve innovation and financial services to support digital transaction	<ul style="list-style-type: none"> • Develop Smart Financial and Payment Infrastructure for Business in cooperation with relevant stakeholders from public and private sectors to promote a end-to-end digital conduct of businesses. • Develop and test-launch retail CBDC to offer a safe digital currency use for the people, as well as to provide opportunities for service providers to access infrastructure to enable them to innovate conveniently and cost-effectively. • Develop necessary digital infrastructure and promote common standards as well as interoperability to make the infrastructure more accessible, easy to use, low-cost and compatible with various products, such as digital ID and digital signature. • Advance domestic cooperation between different agencies so digital literacy and the use of digital payment services can be promoted harmoniously, generating concrete results.
(2.3) Develop a credit guarantee mechanism that helps support various financing needs	<ul style="list-style-type: none"> • An example of collaborative actions with other government agencies. <ul style="list-style-type: none"> - Establish General Credit Guarantee Facility (GCGF) to support SMEs throughout the business cycles and assist firms affected by the crisis to better access financing. This also includes increasing access to infrastructure financing to promote the country's development.

(3) Open Data: enabling better utilization of data and data sharing mechanisms among service providers.

KEY POLICIES	ACTION PLANS
(3.1) Promote policies on Opening Banking	<ul style="list-style-type: none"> • Develop a data exchange mechanism in cooperation with financial institutions so consumers may allow financial service providers to disclose and transmit their personal data to third- party companies, as well as promote API standardisation and common data standards to support interconnectedness and interoperability between different service providers. <p>(The BOT will publish the Open Banking Directional Paper in Q3 of 2022).</p>
(3.2) Support the linkage and more effective use of micro-level data	<ul style="list-style-type: none"> • Develop mechanisms, infrastructure and regulatory frameworks that facilitate the interconnectedness of data across different agencies to form an integrated database, which will be governed by an appropriate data governance framework that does not violate the data owners' privacy.

Policy Direction #2 Managing Transition towards Sustainability:

steering the financial sector to incorporate environmental risk assessment into their business operations and to support, supporting the transition of businesses away from environmentally unsustainable activities without disrupting the economy while minimizing the unintended consequences, and helping households or vulnerable groups survive and adapt sustainably to the new global trends

(1) Encourage the financial sector to incorporate environmental considerations into their operations in a systematic manner and to offer financial products that would help businesses adapt and transition away from activities that are not environmentally sustainable by establishing the key building blocks for a green financial ecosystem in collaboration with other relevant agencies (The BOT will release the directional paper “Managing Transition towards Greater Environmental Sustainability” in Q2 2022).

KEY POLICIES	ACTION PLANS
(1.1) Promote the development of a national green taxonomy	<ul style="list-style-type: none">Develop the Thai Taxonomy that is appropriate for Thailand’s context and is aligned with international standards in collaboration with relevant agencies.
(1.2) Set standards for environment-related disclosures	<ul style="list-style-type: none">Lay down disclosure standards for financial institutions so that they could showcase their commitments and climate actions in a manner that is clear and consistent with international standards.Encourage the adoption of disclosure standards among other financial sectors as well as non-financial businesses in collaboration with other regulatory agencies.Consider the possibilities of pushing forth the creation of a data platform to facilitate data connectivity and information sharing to disseminate data necessary for analyses including the assessment of environment-related risks and opportunities.
(1.3) Promote financial products to support the transition	<ul style="list-style-type: none">Collaborate with financial institutions to develop good practice guidelines to encourage financial institutions to materially incorporate environmental risks into their risk management practices and design financial products and services that reflect those risks and support businesses to transition towards more sustainable practices as well as adjust and exit from activities that are not environmentally friendly.
(1.4) Create the right incentive structures	<ul style="list-style-type: none">Put in place mechanisms or measures to help alleviate the burden or cost of adjustments for financial institutions and businesses will facilitate a timelier transition. Particularly, the aim is to increase SME’s access to the financing they need to adjust and transition to a more sustainable practice. One example is Singapore’s grant scheme to help reduce the validation expense of green loans application.
(1.5) Build up capacity of financial sector personnel	<ul style="list-style-type: none">Collaborate and exchange views and experiences with other financial regulators and banking associations to build up the capacity of financial sector personnel in assessment of environment-related risks and opportunities.

(2) Encourage the financial sector to play parts in facilitating households to transition towards digital finance and support the over-indebted households to manage their debts sustainably

KEY POLICIES	ACTION PLANS
[2.1] Promote financial literacy and digital financial literacy	<ul style="list-style-type: none"> Develop a database for financial literacy and digital financial literacy that is easily accessible, up-to-date with latest financial innovations, and tailored to the needs of the target groups and relevant agencies. Encourage financial service providers to play a role in incentivizing good financial discipline among consumers.
(2.2) Ensure responsible retail lending practices that account for borrowers' repayment ability to prevent over-indebtedness	<ul style="list-style-type: none"> Requiring financial institutions and retail credit providers under BOT's supervision to take into consideration the financial viability of the borrowers in the loan approval process such as by giving due consideration to the Debt Service Ratio (DSR) of the vulnerable groups. Closely monitor developments in household debt and consider the need for macroprudential measures to help slow down borrowing for unnecessary consumption spending once the economic recovery gains traction.
(2.3) Promote holistic mechanisms for resolving debt so households can adjust and make a recovery over the longer-term without returning to insolvency	<ul style="list-style-type: none"> Collaborate with related agencies to devise a plan that would bring about sustainable solutions for households that owe large amounts of debt to financial service providers or other bodies such as saving cooperatives, and the Student Loan Fund. This includes designing repayment plans that are appropriate to borrowers' debt repayment capacity over the longer term, while retaining enough disposable income after debt repayments.
(2.4) Promote the collection of comprehensive data on household debt	<ul style="list-style-type: none"> Examples of potential collaboration with relevant agencies: <ul style="list-style-type: none"> In the short term, encourage non-bank retail credit providers and key saving cooperatives to become a member of the National Credit Bureau (NCB). Over the medium to long term, linking the databases of various agencies into one large database that could be used by all parties to improve financial access and financial products to better fit the need and capabilities of the borrowers.

Policy Direction #3: Shifting from Stability to Resiliency:

Shifting towards a more flexible regulatory framework that allows financial service providers to capitalize on the digital trend while ensures that they could respond to significant and emerging risks in a timely manner.

(1) Provide greater flexibility for financial and banking supervision to address new types of risks faced by service providers, as well as reviewing rules and regulations which may prove burdensome.

KEY POLICIES	ACTION PLANS
(1.1) Apply a risk-proportionality approach to the supervision of increasingly diverse service providers	<ul style="list-style-type: none"> Employ a regulatory framework that incorporates both rule-based elements to set the same required standards or minimum criteria for all service providers, and principle-based features to allow service providers to adopt risk management frameworks which suit the nature and degree

KEY POLICIES	ACTION PLANS
	of their risks. However, the providers will be liable and must prove to regulators that they are able to cope with the risks.
(1.2) Review regulations that are currently limiting the service providers' abilities to adapt, compete, innovate or serve customers better	<ul style="list-style-type: none"> Examples of rules and regulations which will be reviewed: <ul style="list-style-type: none"> - Adopt risk-based pricing to set a new ceiling for retail loan interest rates - Streamline processes and workflows under the Regulatory Sandbox
(1.3) Establish an exit mechanism for financial service providers who face problems and fail to adapt to cease operations without disrupting the financial system or inflicting large-scale losses to the economic and financial system	<ul style="list-style-type: none"> Set up conditions and procedures for the service providers to return their licenses or registration certificates and exit in an orderly fashion. In addition, there will be a license/certification revocation process for the service providers who do not conduct businesses appropriately such as those with prolonged period of inactivity or willful non-compliance.

(2) Enhance supervision and management of significant risks including the risks from systemically important financial service providers in the new financial era

KEY POLICIES	ACTION PLANS
(2.1) Discourage the adoption of digital assets as a means of payment but financial institutions who seek to use technology related to digital assets for the purpose of increasing their efficiency under appropriate risk management can consult with the BOT on a case-by-case basis	<ul style="list-style-type: none"> Discourage the adoption of digital assets as means of payment since this may pose significant systemic risks to the economy as well as the people. For instance, high price volatility of digital assets may increase costs for both payers and payees, while the payment process itself can also be insecure from lack of regulatory standards. Review guidelines on supervision of some types of digital assets which can enhance payment efficiency and advance financial innovation to protect consumers and prevent risks to financial stability and the payment system, such as the launch and use of Thai Baht-backed stablecoins. Financial institutions or associated business groups who seek to adopt decentralized computing technology (e.g. blockchain) that requires the holding of digital assets to increase efficiency in financial services or banking affiliates looking to conduct business related to digital assets can consult with the BOT on a case-by-case basis. Considerations will be based on the overall benefits, operational guidelines and risk management practices including proper protection of depositors and consumers. It must be noted that the applications or business models related to digital assets must not support their use as means of payment (MOP) for goods and services.
(2.2) Supervise the financial business group of commercial banks especially ones that leverage on technology and digital channels	<ul style="list-style-type: none"> Enhance supervision of commercial banks and their affiliates on governance and risk management, especially on aspects that concern the role of the board directors of holding companies. Supervision on IT/cyber risks is also included. Supervise transactions within the same business groups, as well as interconnectedness between commercial banks and their affiliates in the group, such as capital funding/credit lending by commercial banks and the collection and utilization of customers' data. Coordinate with relevant regulators to set joint frameworks for risk management and consumer protection.

KEY POLICIES	ACTION PLANS
<p>(2.3) Enhance supervision to include non-bank FIs (NBFIs) and their business groups that provide a wide range of financial services and are systemically important</p>	<ul style="list-style-type: none"> • Evaluate risks and the systemic importance of non-bank financial institutions (NBFIs) and their affiliates which offer numerous financial services concerning: (i) their sizes; (ii) their connectedness and possibilities of generating risks and spillovers to other parts in the financial sector; (iii) their potentially monopolistic/ oligopolistic role which may have a broad impact on consumers; and (iv) complexities in their business models and operations. • Enhance supervision of NBFIs which are systemically important, especially on aspects concerning stability, as well as implement a policy of 'consolidated supervision' on non- bank financial institutions and their affiliates which offer various types of financial products and services in order to reduce possibilities of risk transfers or the misuse of market power which will broadly and adversely impact the financial system and consumers.
<p>(2.4) Apply activity-based supervision of major retail lenders in terms of consumer protection and macroprudential policy associated with household debt</p>	<ul style="list-style-type: none"> • Design guidelines on supervision of unregulated non-bank retail lending with large transaction volume or high potential growth, such as hire purchase and leasing companies. The supervision will cover various aspects concerning both consumer protection and household debt (macroprudential) to put such firms under the same regulatory framework as commercial banks and non-bank retail lenders which have already been regulated.
<p>(2.5) Apply the same supervisory standard of IT/cyber risks as that of financial institutions to NBFIs as well as support capacity building IT/cyber personnel</p>	<ul style="list-style-type: none"> • Supervise NBFIs which are under the BOT's regulation with appropriate, standardised IT/ cyber risk management frameworks so that NBFIs could better manage risks as well as not transmit such risks to other sectors of the economy. At the same time, such regulations should not impose unnecessary burdens on NBFIs by allowing service providers to self-assess their own IT/cyber risks and coordinating with other regulators to reduce providers' compliance burdens. • Further collaboration between key agencies in the financial sector to raise awareness of IT/ cyber risks among financial institutions' board members/ committee and high- level executives and expand the cooperation to other key agencies at the national level to build up IT/cyber knowledge and capacity of personnel in the financial sector.