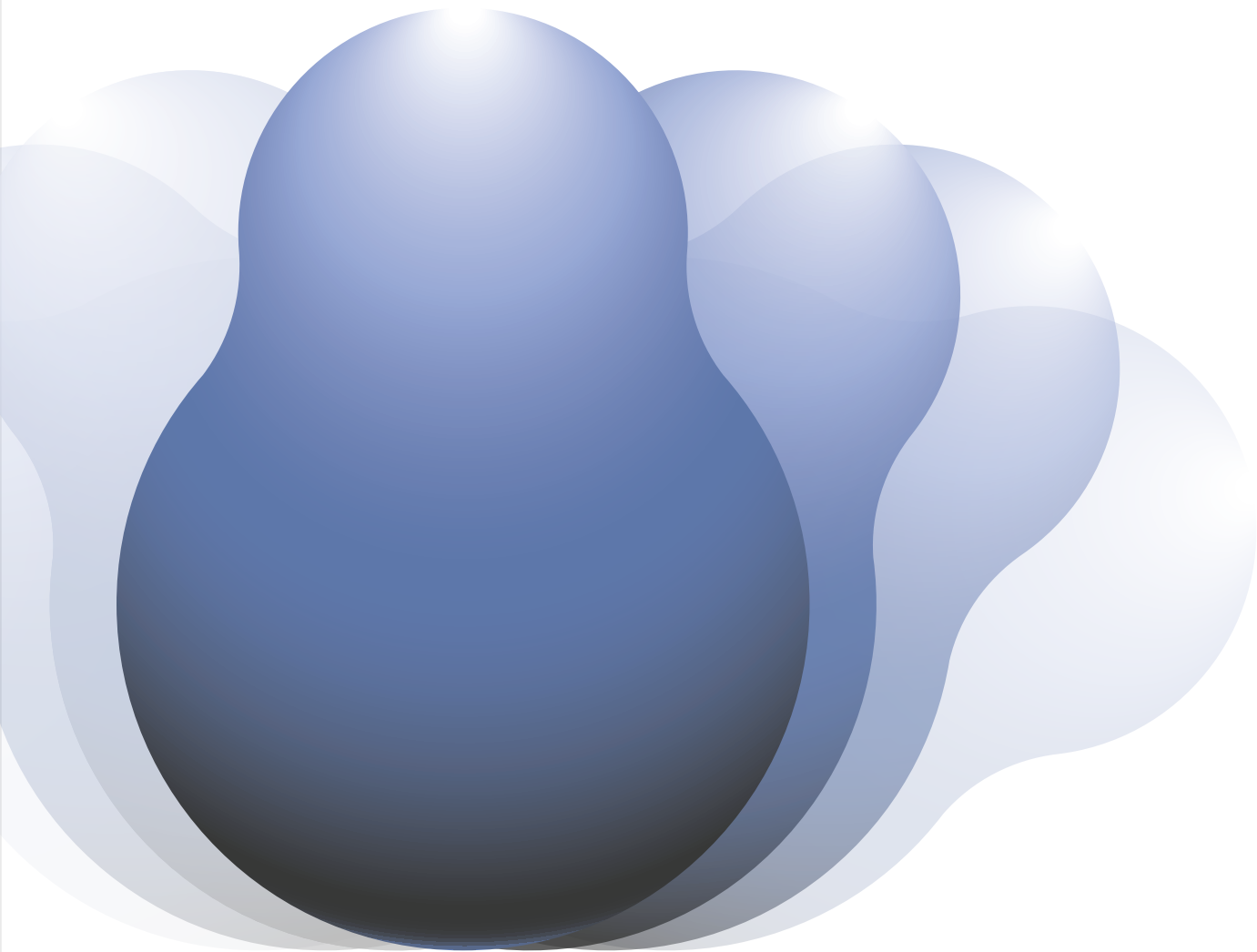




BANK OF THAILAND



ANNUAL REPORT 2023


ENSURING RESILIENCY

On the Path of
Sustainable Recovery




BANK OF THAILAND

MISSION



Promoting a stable financial environment to achieve sustainable and inclusive economic development

VISION



To be an organization of vision principle that engages with stakeholders in pursuit of Thailand's sustainable economic well-being

VALUES



Principles Values
Collaboration Humility

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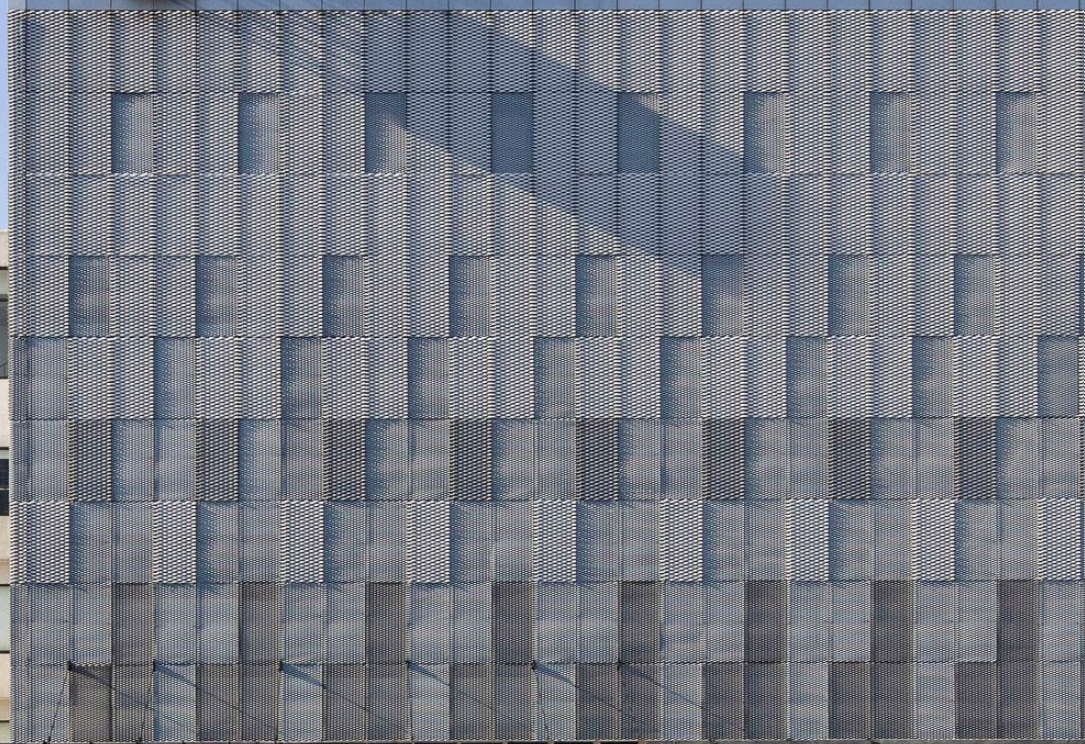
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ธนาคารแห่งประเทศไทย
BANK OF THAILAND



ศูนย์การเรียนรู้ธนาคารแห่งประเทศไทย
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CHAPTER

1

Overview of Operations in 2023

- \ Message from the Chairman of
the Bank of Thailand Board
- \ Message from the Governor
of the Bank of Thailand
- \ BOT at a Glance
- \ Overview of Operations in 2023

Mr. Porameteer Vimolsiri

Chairman of the Bank of Thailand Board

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Message from the Chairman of the Bank of Thailand Board

In 2023, the Thai economy recovered from the COVID-19 pandemic in many aspects. However, the recovery was not broad-based to all sectors. At the same time, the economy faced challenges from volatile global economic and financial conditions, geopolitical tension, environmental issues, and technological disruption. These were critical factors for the Bank of Thailand (BOT) in carrying on its missions to ensure economic stability for a sustainable recovery (Ensuring Resiliency) and cultivate the organizational readiness to be future ready.

This year, the BOT continuously engaged in policy normalization. This included gradually increasing the policy interest rate and adjusting financial measures toward normal conditions after the relaxation during COVID-19 period, along with taking care of vulnerable groups through comprehensive and sustainable household debt solutions. In addition, the BOT prepared a new financial landscape for Thailand to align with technological changes and environmental shifts, particularly by developing digital financial infrastructure to create opportunities, innovations, and access to financial services, coupled with enhancing financial fraud management.

The Bank of Thailand Board in collaboration with the three policy committees, namely the Monetary Policy Committee, the Financial Institutions Policy Committee, and the Payment Systems Committee, together with the Bank of Thailand Audit Committee, the Risk Oversight Committee, and the Governance Committee, laid out the BOT's operational direction. The direction has emphasized a proactive and agile approach, engaging with all relevant parties to ensure policy effectiveness and to build public trust in the BOT missions. Furthermore, the concise risk oversight and promotion of good governance together with enhancing the organization's capabilities are also emphasized for the BOT in carrying on its missions in supporting the future growth of the Thai economy. In 2024, the Bank of Thailand Board will continue to monitor and support the BOT's operations.

On behalf of the Bank of Thailand Board, I wish to thank all BOT Board members, management, and staff for performing duties to the best of their ability amidst the challenges throughout 2023. This led to BOT's efficient operations and smooth policy coordination with government agencies, the private sector, institutions, and various organizations, in pursuit of a stable economic and financial environment with sustainable and inclusive development.



Mr. Poramtee Vimolsiri

Chairman of the Bank of Thailand Board

Mr. Sethaput Suthiwartnarueput
Governor of the Bank of Thailand



Message from the Governor of the Bank of Thailand

The global economic recovery in 2023 differed from those prior to COVID-19 in several aspects, including slower and uneven growth, more sudden changes, and increased uncertainties. In this context, the key to ensuring continuous and sustainable growth of the Thai economy is to build strength and resiliency. This requires three essential components: achieving security and stability, possessing immunity, and progressing in line with new global trends. This is akin to the resiliency of a tilting doll that can both withstand impacts, symbolizing changes, and flexible enough to quickly lift itself up after being knocked over.

The BOT, in its position to oversee the country's economic and financial system, focused on implementing policies that ensured the presence of these three components. Regarding security and stability, the BOT has adjusted its financial and economic policies to be more integrated. This involved gradually increasing the interest rate to ensure continuous economic recovery, and to avoid the trap of having low interest rates for a prolonged period, while also considering the impact on vulnerable groups at the same time. Therefore, additional financial measures were still being implemented to minimize the impact of policy interest rate increases on vulnerable groups.

In terms of building immunity for society, the BOT has promoted financial literacy and fraud prevention among Thai people, as well as advanced laws and measures in collaboration with various organizations. For example, it implemented measures to combat financial fraudulent activities and

promoted the Emergency Decree on Measures for the Prevention and Suppression of Technological Crime B.E. 2566 (2023) to deal with fraudsters and reduce financial loss to citizens. In addition, the BOT promoted financial literacy and knowledge on the usage of financial technology among the public. Moreover, the BOT raised the standard and coverage of financial consumer protection by introducing responsible and fair lending guidelines to ensure that people receive suitable and fair services.

Regarding growing with the new global trends, the BOT prioritized the continuous development of the financial sector's infrastructure. It continued the process of advancing structural development under the principle of 3 Opens: (1) Open Infrastructure, developing infrastructure to support economic growth through international payment system connectivity, such as cross-border QR payments; (2) Open Data, facilitating the connection of user data with different service providers, making financial services more accessible to users and allowing providers to offer more suitable services; (3) Open Competition, encouraging more competition among service providers through the creation of Virtual Banks, to benefit users with better, more convenient, and comprehensive services.

The work that the BOT did in 2023 will continue to expand into important projects that we will see in the coming years. The BOT will continue to raise work standards based on knowledge and data, with transparent and verifiable policy-making processes, and make policy decisions based on the public interest and people's well-being.



Mr. Sethaput Suthiwartnarueput

Governor of the Bank of Thailand

BOT at a Glance

In 2023, the overall Thai economy was on the recovery path, although growth was not yet widespread and being slower than expected. The financial stability conditions were favorable yet vulnerable from high household debt level. Therefore, the BOT had gradually adjusted policies and measures; from focusing on stimulating the economy to overcome the crisis to maintaining financial stability and implementing a long-term financial infrastructure. In addition, targeted financial assistance measures were accompanied to help the vulnerable groups, aiming to support the Thai economic resiliency, flexibility, and

adaptability under the digital and environmental sustainability trends. Throughout this process, the BOT placed importance on listening to opinions from all stakeholders, including deep and comprehensive data analysis, and considering a well-rounded approach to policy design and implementation, in order to maximize overall benefits to the public.

In 2023, the BOT's operations helped drive the economy, businesses, and way of lives of the Thai, which can be illustrated in these statistics:

Thai Economy



The Monetary Policy Committee (MPC) gradually raised the policy interest rate by

0.25% in a total of 5 adjustments,
bringing the rate to **2.50%**

The rationale was to shift from highly accommodative interest rate implemented during the COVID-19 pandemic to a more neutral level that would foster resilient and sustainable economic growth.

People and Businesses



One-year extension of the Special Loans and Transformation Loans, from April 9, 2023 to expire on April 9, 2024. As of December 2023,

the measure supported

65,864

SMEs businesses affected by COVID-19 to gain continuous financial support and have sufficient liquidity.

Measures undertaken to solve the existing debts. As of

December 2023, debtors under the relief measures totaled

3.52 trillion baht,
6.37 million accounts,

and covered debtors of commercial banks, SFIs, and non-bank financial service providers.

Provide aid to non-performing retail debts caused by the COVID-19 through significant debt restructuring measures. These loans were mostly SFIs customers, accounting for

70% of the total number of accounts of this debtor group.

As of December 2023, these non-performing retail debts registered

2.58 million accounts at the SFIs,

20% decrease compared to August 2022*.

* Compared to the number of accounts at the SFIs that become non-performing loans due to the impact of COVID-19 as of August 2022, published on the Directional Paper titled "Sustainable Solutions to Thailand's Household Debt Problems".

Asset Warehousing Program:

a total of **500** businesses had received assistance under the program, with the approved value of

74,114 million baht

(the program was terminated on April 9, 2023)

Maintaining a reduction in the minimum credit card repayment rate of

5% from **10%**

as well as extending the repayment period of digital personal loan from 6 months to 1 year until the end of 2023.

Debt Exit Fastlane Program:

From the program's inception in April 2020 until the end of 2023, there were an accumulated total of

287,052 account

(specifically 30,724 accounts in 2023) or **73%** of eligible debtors**.

Consultation and complaint handling in terms of the use of financial services and frauds in 2023



Handled approximately

5,951 complaint cases,

85% of which were related to financial services.

Gave advice to

10,235

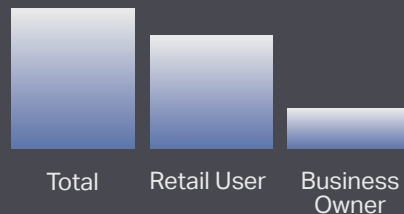
customers in total.



Doctor Debt Program: From the program's inception in January 2021, there were an accumulated total of


9,520 applicants

(specifically 2,364 applicants in 2023), with **7,523** as retail users and **1,997** as business owners.



Debt Clinic Program:

As of December 2023, more than

152,700 accounts participated in the program, an increase of **49%** 

from the end of 2022.

e-Payment Transaction as of December 2023



PromptPay registration rose to

77.2

million numbers in 2023, an increase of

2.9 million numbers from the year 2022.

The volume of transactions averaged at



54.5 million

transactions per day,

equivalent to

129.9

billion baht per day.



At the end of December 2023, there were new high record at

75.9 million transactions per day.

PromptPay-PayNow:

There were an accumulated total of **756,000**

transactions, almost doubled from the previous year, and equivalent to

4,700 million baht, an increase by 1 time from the previous year.

Cross-border QR Payment:

There were an accumulated total of **720,000**

transactions, increasing almost 13 times from the previous year, and equivalent to **600** million baht, an increase by 6 times from the previous year.

** The number of eligible debtors is the number of all applicants, minus those who cannot be contacted, and do not meet various conditions, such as account not found, repeated requests, or canceled requests.



Overview of Operations in 2023



Challenges of the Thai economy under sustainable recovery.

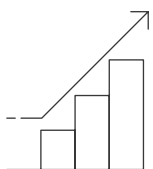


In 2023, the overall Thai economy was on the recovery path, although growth was not yet widespread and being slower than expected. The overall economic and financial stability conditions were favorable. Nonetheless, vulnerabilities remained from high household debt level and risks arising from various uncertainties, both domestically and internationally.

In this context, the BOT had gradually adjusted policies and measures; from focusing on stimulating the economy to overcome the crisis to maintaining financial stability and implementing a long-term financial infrastructure. In addition, targeted financial assistance measures were accompanied to help the vulnerable groups, aiming to support the Thai economic resiliency, flexibility, and adaptability under the digital and environmental sustainability trends. Throughout this process, the BOT placed importance on listening to opinions from all stakeholders, including deep and comprehensive data analysis, and considering a well-rounded approach to policy design and implementation. The goal was to maximize overall benefits to the community and to mitigate potential side effects on the economy, the public, and the business sectors.

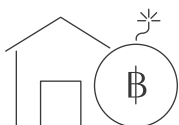
Five key operations of the BOT

In 2023, the BOT aimed to push forward five key areas of work to ensure sustainable economic recovery and prepare for new changes and upcoming risks in the future. The five key areas of work were:



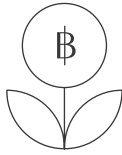
1 Adjusting policies to ensure a "smooth takeoff" and avoid long-term risks.

The monetary policy and financial measures were normalized toward neutral level, allowing the Thai economy to grow in line with its long-term potential. Meanwhile, some financial measures remained intact to support vulnerable groups that have not fully recovered.



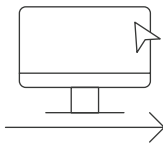
2 Establishing the mechanism to sustainably solve household debt problems.

The solutions were emphasized to be executed in a holistic manner; covering the entire debt cycle and creating a mechanism for financial institutions to continuously assist debtors. The mechanism included the debt restructuring, both before and after becoming non-performing loans, solving the persistent debts, and protecting the rights of debtors to receive fairness when using financial services.



3 Supporting the business sectors transition towards environmental sustainability.

The BOT focused on laying the building blocks for financial institutions to comprehensively incorporate environmental issues into their business processes. This included encouraging financial institutions to have sufficient “transition finance products” to assist businesses in transitioning towards environmental sustainability, starting with the pilot industries.



4 Establishing a digital financial infrastructure.

It would empower the Thai financial sector by leveraging technology and data in developing socially responsible innovations and financial services to better serve customers’ needs. This had been carried out continuously from the previous year under the principles of “Open Infrastructure, Open Data, and Open Competition.”



5 Creating a conducive environment to enhance employees to work at their full potential.

The BOT enhanced its human resource management systems, data management, and technology systems, which would be crucial foundations for driving missions and strategic plans in the next phase. This allowed the organization to adapt and efficiently serve both current and future challenges.

From the five key operations to the lives of Thai people

The five key operations driven throughout the year 2023 focused on creating benefits and enhancing flexibility and resiliency for the Thai economy, Thai people, and related sectors as follows:

1 \ The Thai economy:

In 2023, the Thai economy was on the recovery path although the growth was not widespread and slower than expected, especially in the latter half of the year. The main risk factors were the sluggish global economic recovery and the reduction of public investment due to delayed annual budget. In addition, there were signs that the Thai economy has been facing increasingly severe structural challenges. The inflation was at low level due to special and temporary factors. The overall financial system remained resilient. Comprehensively weighing various factors into consideration, the appropriate monetary policy, thus, was to gradually increase the policy rate and maintain at a level consistent with economic and financial outlooks. This was accompanied by targeted financial measures to support vulnerable groups whose income had not fully recovered. Example of such measures included one-year extension of the Special Loan and Transformation Loan to expire on April 9, 2024. The measure would support businesses to have sufficient liquidity and facilitate transition towards the new global trend. Another example was the revision of the debtor qualification criteria to increase access to the Debt Clinic program.

The financial conditions tightened somewhat due to the increased policy interest rate, but it did not pose any hindrance to the overall economic recovery. The increased policy interest rate was transmitted to the lending rates for retail customers (Minimum Retail Rate: MRR) at the lower portion compared to the lending rates for large customers (Minimum Loan Rate: MLR)¹. Such transmission helped alleviate the impact on vulnerable debtors whose borrowings were mostly refer to MRR. The loan growth contracted mainly due to business sector's debt repayments for the measures during the COVID-19 period, which was a good sign. Moreover, the commercial banks' overall new loans registered higher value than the pre COVID-19 period, reflecting that commercial banks were still injecting liquidity into the economy.

¹ Commercial banks gradually increased the MRR around 50 percent of the increased policy rate. The transmission was less than that of the MLR which was increased at approximately 70 percent.

2 \ Thai people:

Although the Thai economy was gradually recovering, there were still vulnerabilities from the high level of household debt, which was one of the structural problems that the BOT consistently recognized and prioritized. The BOT had developed a directional paper and guidelines for solving household debt problems in a sustainable and comprehensive manner, addressing the debt in the short, medium, and long terms. The guidelines would align efforts from both within the BOT and external authorities. The efforts could be categorized into two groups as follows:

1. Measures undertaken to solve the existing debts. Firstly, the BOT accelerated actions to solve debt problems. As of December 2023, debtors under the relief measures totaled 3.52 trillion baht, amounted to 6.37 million accounts, and covered debtors of commercial banks, Specialized Financial Institutions (SFIs), and non-bank financial service providers. The BOT had encouraged various financial institutions to proactively contact customers to offer suitable assistance according to each group's needs, focusing on pre-emptive debt relief. Secondly, the SFIs had gradually aided non-performing retail debts through significant debt restructuring measures. These non-performing retail loans caused by the COVID-19 were mostly SFIs customers, accounting for 70 percent of the total number of accounts of this debtor group. As of December 2023, these non-performing retail debts registered 2.58 million accounts at the SFIs, a decrease of 20 percent compared to August 2022². Thirdly, the Debt Clinic program adjusted eligibility criteria to allow better access to the program. Any credit card loans and personal loans with overdue payments exceeding 120 days could instantly apply to the program. Additional debt repayment plans were available for existing debtors in the program who faced difficulties in repayment. As of December 2023, more than 152,700 accounts participated in the Debt Clinic program, an increase of 49 percent from the end of 2022. Furthermore, the BOT had played a part to help debt resolution of important debtor groups, namely, the civil servant teacher and student loan fund debtors.

2. Measures being prepared for enforcement.

The BOT had communicated the direction of new measures to take care of household debt sustainably and comprehensively. Moreover, public hearings were taken on the draft guidelines to solve household debt problems sustainably, namely the "responsible lending". This guideline shifted the paradigm from persuading financial institutions to help debtors, to requiring financial institutions to comply to the guideline—providing loans responsibly and fairly, taking care of debtors with repayment difficulties by offering debt restructuring, helping debtors who are classified as persistent debt to end their debts, and protecting debtor's rights. The guideline will be enforced on the financial institutions and non-banks from January 1, 2024 onwards, except for the part of persistent debt which will start on April 1, 2024. Nonetheless, for SFIs the approval from the Ministry of Finance must be obtained before further enforcement.

In addition, the BOT had prepared guidelines for managing systemic risks such as Debt Service Ratio measure to curb new debts, reduce over-indebtedness, and allow debtors to have sufficient residual income after debt repayment. The timing of enforcement will need to be considerably appropriate with the context of the economy. Proactive communication will be done to allow public and service providers sufficient time for preparations.

Furthermore, the BOT had been considering the mechanism for additionally determining risk-based pricing (RBP), with the goal to support loans access at proper interest rates reflecting each borrower's risk profile. Borrowers with risks higher than the legal ceiling rate would have more opportunities to access formal credits and reduce informal debt reliance. Whereas borrowers with lower risk or good credit history would have chances to enjoy better loan conditions. All these measures are parts of the guidelines on managing the household debts.

² Compared to the number of accounts at the SFIs that become non-performing loans due to the impact of COVID-19 as of August 2022, published on the Directional Paper titled "Sustainable Solutions to Thailand's Household Debt Problems".

3 \ Financial institutions:

The BOT had been driving the establishment of a new financial landscape for Thailand, according to the principles, key directions, and policy guidelines stated last year. This was to enable the Thai financial sector to leverage technology and data to develop user-centric financial innovations and services comprehensively and fairly with fair competition. Moreover, the financial sector could foster business transition towards environmentally sustainable practices in a timely manner.

Throughout 2023, the BOT took steps in this direction with significant achievements including:

1. Digital Finance: The BOT continued to develop responsible innovation in 2023, some of which had already been put into actions. Examples included the connection of cross-border payment systems, to facilitate seamless transactions between countries, and the activation of the PromptBiz system as a financial infrastructure, to support end-to-end trading transactions and cross-banking digital payments through five pilot commercial banks. The expected benefits included increased efficiency, reduced costs, and generated digital data for further utilization by the business sector such as access to capital. Several initiatives and policy directions had already been opened for public comments and been actively pushed for execution. Examples included the “Open Banking Data for Consumer Empowerment”, which aimed to allow consumers to utilize data according to their rights, and Virtual Bank Licensing Framework.

In addition, the BOT developed the Central Bank Digital Currency (CBDC) project, at both wholesale and retail level. The wholesale CBDC aimed to facilitate cross-border transfer payments between financial institutions through the Multiple Central Bank Digital Currency Bridge (mBridge) project. This would help reduce the costs and time to complete the transactions. Meanwhile, the BOT also initiated the development of retail CBDC to use at individual level. The goal was to explore potential use cases of adopting CBDC technology to create new services that address limitations in the current payment system. However, the BOT does not yet

have a plan to issue the retail CBDC in the future. (details in Box 5: The Progress of Central Bank Digital Currency (CBDC)).

2. Digital Financial Fraud: To maximize the benefits and efficiency of developing and promoting digital finance, it is crucial to instill confidence in its security for the public. The increasing prevalence of financial fraud and the continuous evolution of deceptive patterns posed significant challenges to public trust in digital financial services. The BOT had been aware of these issues and was not complacent. Consequently, measures had been implemented to safeguard the public and proactively manage financial fraud threats arising from digital channels, such as prohibiting financial institutions from sending all types of links via SMS and email, strengthening identity verification processes by using biometrics for high-value fund transfers, and requiring a dedicated 24-hour hotline for urgent assistance distinct from regular service channels.

In addition, the BOT continued to support financial literacy by focusing on financial fraud and participated in developing the Central Fraud Registry (CFR) system in collaboration with relevant agencies, including the Ministry of Digital Economy and Society, the Royal Thai Police Department, the Department of Special Investigation, and the Anti-Money Laundering Office. The efforts aimed to exchange account information that may be involved in technological crimes. Since the end of August 2023, the banking group had exchanged account information that has been notified by victims according to the Emergency Decree on Measures for the Prevention and Suppression of Technological Crime B.E. 2566 (2023). In this regard, the BOT would enhance anti-financial fraud measures to be more holistic, collaborating with financial institutions and related government agencies to tighten account opening standards, as well as creating a cooperation mechanism from all sectors to enhance the immunity against fraud arising from outside the financial sector, and expanding channels for the public to easily access fraud warning information sources.

3. Sustainable Finance: Under the challenge of global trends that prioritize environmental-friendly economies, the BOT had actively encouraged the financial sector to play an important role in assisting the Thai business sector and economic system in transitioning towards environmental sustainability with minimum externalities. In 2023, the BOT placed significant emphasis on establishing mechanisms and standards for financial institutions to incorporate environmental considerations thoroughly and comprehensively into their business operations. These included (1) the implementation of standard practices for the financial sector, considering the environmental factors and climate change in their framework for assessing environmental opportunities and risks. This integration could take the form of incorporating environmental considerations into their day-to-day operations or offering environmentally focused financial products and services concretely and appropriately. (2) The establishment of the standards for economic activities (Thailand Taxonomy) taking into account the environmental issues, aiming to establish a consistent benchmark that relevant sectors can utilize as a reference for accessing financial services and tools. Phase 1 of Thailand's Taxonomy focused on the energy and transportation sectors with the highest proportion of greenhouse gas emissions. (3) The financial institutions were encouraged to offer financial products that helped support the business sector in transition, focusing on pilot industries, specifically the sugarcane and sugar sectors. Financial institutions had facilitated funding through low-interest rate loans for the acquisition of machinery related to efficient sugarcane harvesting, aimed at mitigating PM2.5 pollution. Lastly, (4) enhancement of the capacity building in sustainable finance. The industry handbook has incorporated guidelines for developing sustainable finance of the personnel. Additionally, the Thai Bankers Association (TBA) had taken gradual steps to organize training sessions, imparting knowledge to relevant stakeholders.

Looking ahead, the BOT aims to drive the financial institution sector towards offering a diverse range of financial products that can effectively support businesses in their transition toward environmental sustainability.

To ensure the effectiveness of the BOT in achieving its mission and strategic plans, the BOT recognized the importance of empowering our human resources. The vital steps were taken such as creating an environment for both human resource management systems workforce planning, information systems, and technology systems that allow employees to work at their full potential, along with building skills necessary for future works. In addition, the BOT had gradually adjusted the organizational structure, emphasizing the centralization of work groups with similar characteristics, aiming to enhance work coordination and bolster its capacity to drive initiatives effectively in the foreseeable future.

From a series of operations and measures that the BOT had implemented in the past and throughout the year 2023—addressing five key challenges; the Thai economy achieved a smooth takeoff recovery. Simultaneously, the groundwork was laid for a seamless transition toward a digital and sustainable economy. Additionally, measures were implemented to address household debt issues sustainably, fostering steady economic growth, stability, and genuine resiliency for the Thai economy.





CHAPTER

2

Ensuring Resiliency : On the Path of Sustainable Recovery

- \ A Year in Review: what has happened to the Thai economy in 2023?
- \ The Thai economy expanded at a slower pace than anticipated with uneven recovery.
- \ BOT policies and measures for ensuring resiliency

A YEAR IN REVIEW:

WHAT HAS HAPPENED TO THE THAI ECONOMY IN 2023?

Although the Thai economy in 2023 faced plentiful challenges, it still recovered, albeit at a slower pace than expected. The causes of these challenges, despite happening in 2023, might be formed years before, and some were deeply rooted in the Thai economic structure.

A beginning filled with hope.

The Thai economy looked promising when China reopened its border. On January 8, 2023, the Chinese government ended the Zero-COVID policy, which was implemented for 3 years, and allowed its citizens to travel abroad. This positively impacted the economies of ASEAN countries including Thailand as we were major destinations for Chinese tourists. Because of this good news, it was

predicted that the Thai economy in 2023 would expand from the revenue generated by the returning tourism, leading to the Thai baht appreciation at 32.57 THB/USD. Although the inflation rate in Thailand remained higher than the target range at the beginning of the year, it gradually decreased following the decline of domestic electricity and oil prices.

The US and Europe were troubled by the banking sector.

In March, despite the declining concerns for global recession, the United States of America and Europe encountered problems in the banking sector due to the risks which were accumulated during the prolonged low interest rate environment and erupted when the policy rates were spiked up to tackle the high inflation problem.

Silicon Valley Bank (SVB), a small bank in the US, incurred losses from an investment in treasury bonds after the rising of interest rate. This damaged the customer trust and eventually triggered a bank run. On March 10, 2023, the bank was closed and the Federal Deposit Insurance Corporation announced that the deposits were protected at all amount to prevent the contagion problems. After less than 2 weeks, Credit Suisse which had long suffered from its operating loss, faced another problem as Saudi National Bank refused to inject more capital. The risk of default and bankruptcy soared; hence, the Swiss government came to an aid and arranged the acquisition by Union Bank of Switzerland (UBS) on March 19, 2023.

The event had a limited impact on the Thai financial system since there were only a few transactions related to the aforementioned trouble banks. It should be noted that the small banks in Thailand were regulated with the same standard as large banks, such as capital adequacy and liquidity requirements. In contrast with some countries, only large banks were closely regulated.

The Bank of Thailand (BOT) continued to introduce various measures.

Commercial loans in the banking system during the first quarter of 2023 contracted 0.3 percent YoY, with an ongoing decline in SMEs loans since the end of 2022. The contraction was partly due to the businesses' gradual debt repayment at the conclusion of the Soft Loan scheme and the rising risks of vulnerable groups which affected the access to new credit. Nonetheless, the overall growth of new loans remained higher than the growth observed prior to the COVID-19 pandemic.

Consequently, the BOT continued to provide aid to businesses. On March 21, 2023, the BOT extended the Special Loan Phase 2 and Transformation Loan for an additional year, set to end on April 9, 2024, to support the firms affected by COVID-19 and enhance their potential to adapt to the new normal.



Scan to read more about the 1-year extension of the liquidity support measures (in Thai)

During the same month, the BOT introduced measures to combat financial fraudulent activities to address problems which arose with the growth of digital transactions. On March 17, 2023, the Emergency Decree on Measures for the Prevention and Suppression of Technological Crime B.E. 2566 (2023) was enacted, shielding consumers from scams and mule accounts.



Scan to watch the press release about the BOT's measures to combat financial fraudulent activities (in Thai)

Inflation in Thailand declined mainly from energy prices.

In 2023, headline inflation began to fall substantially in May, dropping to 0.53 percent (from 2.67 percent in April). This was due to a decline in global oil prices, a reduction in domestic electricity prices resulting from government subsidies, and the base effect from high energy prices in the previous year. The government implemented energy subsidy policies throughout 2023, both during the remaining tenure of the caretaker government and under the new administration that followed. Headline inflation subsequently fell gradually, turning negative for the first time in October 2023 at -0.3 percent. However, if the effect from energy subsidies was excluded, headline inflation would remain positive at 0.9 percent. Core inflation, which reflected demand pressures, continued to rise, averaging 1.27 percent in 2023. In the second half of the year, headline inflation moved below the target range of 1-3 percent due to supply-side factors, including energy and raw food categories. In particular, pork prices declined from larger supply and illegal pork imports.

The corporate bond market continued to function normally despite some issuers defaulting.

Mid-year, there were reports of corporate bond defaults by some companies, especially non-investment grade issuers with specific circumstances, such as financial fraud and liquidity problems. This led to undersubscription on corporate bond sales by some high-risk issuers, such as those in non-investment grade category, because investors became more cautious. Nonetheless, the corporate bond market continued to function normally and the overall refinancing activities to roll over existing debts were not affected as most businesses could raise more capital than required.

Severe drought driven by El Niño

The world entered the El Niño climate pattern in mid-2023, which caused droughts across Asia and Australia. As El Niño impeded some agricultural production, leading to the rising produce prices; in response, certain countries began to enact food security policies, e.g., India announced the restriction on rice exports in July 2023.

To alleviate the impact of climate change, the BOT in collaboration with other stakeholder organizations drafted and published "Thailand Taxonomy Phase 1", a reference tool classifying economic activities based on their environmental objectives. It provided businesses and financial institutions the clear standard for activities in the energy and transportation sectors that reduced

environmental impacts and facilitated the transition to a sustainable green economy.



Scan to read more about "Thailand Taxonomy": a reference tool classifying economic activities based on their environmental objectives

The global economy confronted high inflation, pushing central banks around the world to tighten their monetary policies.

Even though the inflation rates in many countries gradually decreased after passing their peaks around mid-2022, they remained elevated. This required central banks around the world to continuously increase their policy interest rates.

The Federal Reserve (Fed) continued to raise its policy interest rate in 2023, with the last increase on July 26, 2023, to 5.25-5.50 percent per annum. It communicated that it would maintain this level for some time (higher for longer), different from investors' expectations at the beginning of the year that there would be a chance to lower the interest rate this year. This has strengthened the value of the US dollar, and the Thai baht depreciated the most in October, at 37.24 baht per US dollar. The yield on 10-year Thai government bonds reached a peak of 3.35 percent, from both the prospect of the Fed's monetary policy and the slow growth of the Thai economy, together with the domestic political uncertainty. Meanwhile, there were capital outflows of approximately 9.9 billion US dollars. However, Thailand's external stability remained strong, which helped hold up investor confidence.

The European Central Bank (ECB) raised its interest rate from -0.5 percent in 2022 to 4 percent on September 14, 2023, which was the last interest rate hike, to tackle the high inflation problem as well.

The BOT launched Sustainable Household Debt Solutions, while the Monetary Policy Committee (MPC) adjusted the policy interest rate toward a neutral level.

The Thai economy has not achieved a broad-based recovery. Some vulnerable groups, such as self-employed workers whose income has not fully recovered, might be impacted by higher financial costs. This was evident from the declining quality of retail loans by low-income households, including home and car loans. Moreover, the ratio of household debt to GDP remained elevated. On July 21, 2023, the BOT introduced additional regulatory measures to address household debt problems sustainably through the implementation of responsible lending criteria which became effective from January 1, 2024 (Additional information about responsible lending is available at <https://www.bot.or.th/en/news-and-media/news/news-20230721.html>).

Meanwhile, the gradual adjustment of monetary policy toward a neutral level has been underway since August 2022. The gradual and measured approach was implemented until September 2023 when the MPC raised the policy interest rate for the last time. The committee clearly communicated that the interest rate was within a range that was balanced with Thailand's economic potential and financial stability (For more information, refer to Box 1: Monetary policy normalization in 2023



Scan to watch the press conference on Sustainable Household Debt Solutions (in Thai)

China's demand slowed down after reopening, partly due to problems in the real estate sector.

Despite a promising start to the year, China's domestic demand declined due to headwinds from problems in the real estate sector, which experienced several debt defaults. In August 2023, Country Garden, the largest real estate company in China, failed to make interest payments on two corporate bond issues on time. Meanwhile, the second-largest real estate company, China Evergrande Group, filed for bankruptcy protection in the US because it could not repay a debt of 300 billion US dollars. This impacted the economic recovery and aggregate demand

in China, leading to less imports from other countries and fewer Chinese tourists traveling abroad than expected (For more details, refer to the article "Evergrande Crisis: A Case Study for Thai Policymakers", available in Thai).



Scan to read the article "Evergrande Crisis: a Case Study for Thai Policymakers" (in Thai)

The delay in forming the new government impacted the public spending disbursement in 2024 fiscal year.

Thailand held a general election for members of the House of Representatives on May 14, 2023, but the formation of the government was delayed. The cabinet took the oath of office on September 5, 2023. This delay resulted in uncertainty about the new government's policy and the 2024 budgetary process. The financial market experienced volatility during the period when investors were awaiting clarity on the new government's policy. This was especially troublesome for the project to hand out 10,000 baht to each Thai citizen through a digital wallet, and also for the 2024 budgetary process. Fiscal disbursement was expected to be delayed by more than 6 months (expected disbursement starting in April 2024). This delay resulted in a contraction of public investment by 9.3 percent in the fourth quarter of 2023 (first quarter of the fiscal year 2024), compared to the average for a normal year. This reduced the economic growth in the last quarter of 2023 by around 1.2 percent.

Geopolitical conflicts were spreading in many regions of the world.

On October 7, 2023, Hamas militant group launched the most violent attack on Israel in several decades, and Israel counterattacked in the Gaza Strip, creating tension and having a short-term impact on oil prices. However, global energy prices did not surge strongly because the OPEC group did not boycott oil exports to countries that supported Israel.

The Russia-Ukraine conflict, which has continued since 2022, showed no signs of ending, while the US and Europe have escalated sanctions against Russia. The US-China conflict remained tense and started to widen, reflecting by the US's trade restriction policy and the joint restriction on the export of chips and technology products from an increasing number of allied nations, such as the US, Japan, and the Netherlands to China. Meanwhile, China hastened its support for the domestic semiconductor industry and set a target to produce 80 percent of domestic demand by 2030.

The year 2023 ended with more evident structural problems.

Although there was no COVID-19 outbreak in 2023, and the early part of the year pointed to a smooth year for the Thai economy, several structural problems gradually became more evident as time passed toward the end of the year, especially from various indicators. In 2023, Thailand welcomed a total of 28.2 million foreign tourists, partly due to the free visa policies for China, Kazakhstan, India, and Taiwan. However, the number of Chinese tourists was less than that previously hoped for at the start of the year due to the slowing Chinese economy. The total Chinese tourist arrival was only 3.5 million people, or 32 percent of the pre-COVID level, which was as high as 11 million people. In addition, foreign tourist receipts declined due to the change in their spending behavior, with less spending and shorter length of stay, which was a worldwide phenomenon. This resulted in lower-than-expected tourism receipts in the third and fourth quarters of 2023, even though the number of tourists was as predicted.

Thailand's industrial production contracted in 2023 following weak exports due to cyclical and structural factors.

Cyclical headwinds included a high level of business inventory, a slowly recovering Chinese economy, and the electronics cycle, which has not recovered. Ongoing structural factors also intensified and became more apparent. Demands for Thailand's hard disk drive exports were being replaced by solid state drives. Petrochemical product exports to China were being challenged by domestic import substitutes, which China can now produce. China has also exported more products to compete with Thai local manufacturers, such as steel products and electric cars.

In 2023, the Thai economy still faced domestic and external challenges. The BOT, with the main mission of safeguarding Thailand's macro-financial stability, had to carry out various policies cautiously, earnestly, and persistently, focusing on forward-looking assessment, to ensure that the Thai economy will be on the path of sustainable recovery amid the rapidly changing and volatile new world era.

BANK OF THAILAND

January

JANUARY 12

The BOT published the Consultation Paper on Virtual Bank Licensing Framework.

VIRTUAL
BANK

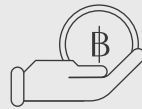
February

FEBRUARY 14

The Directional Paper on Sustainable Solutions to Thailand's Household Debt Problems

FEBRUARY 20

Debt Clinic's condition now covered debtors whose accounts were classified as NPL before February 1, 2023



March

MARCH 9

The BOT announced the measures to combat financial fraudulent activities.



June

APRIL 28

Debt Clinic revised the applicants' qualification.



JUNE 6

Governors and executive management of the BOT and National Bank of Cambodia joined the launch of cross-border QR payment (phase 2) allowing Thai tourists to pay for their purchases via the QR payment at stores in Cambodia.

CROSS-BORDER
QR CODE

JUNE 19

The BOT released the revised Consultation Paper on Virtual Bank Licensing Framework.



August

AUGUST 25

Bank of Indonesia, Bank Negara Malaysia, and the BOT strengthened cooperation to promote the use of local currencies in bilateral transactions. On the same day, State Bank of Vietnam officially joined the Regional Payment Connectivity initiative.

September

SEPTEMBER 14-15

The BOT Digital Finance Conference 2023 was held to exhibit the direction and advancement of financial innovation as well as ideas and experiences of its application from local and international experts.

October

OCTOBER 1-31

The BOT, Google Thailand, and TB-CERT collaboratively launched the "#31Days31Tips" campaign to promote the Thais' digital literacy and online safety.

Highlight Activities

April

MARCH 21

The BOT extended existing loan support measures for businesses.



MARCH 23

The BOT joined BIS's Project Nexus partnering with central banks in Indonesia, Malaysia, Philippines, and Singapore.

MARCH 24

The BOT and the representatives from 14 government agencies signed an MOU on developing a database to resolve Thai farmers' debt problems.

APRIL 27

The BOT received gold donation for contribution to the currency reserve.



July

JUNE 30

The BOT issued joint press release on the final publication of Thailand Taxonomy Phase 1.

THAILAND
TAXONOMY

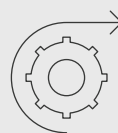
JULY 12

The BOT organized the BOT Communication Hackathon 2023 contest to listen about communication strategy from the public.



JULY 13

The BOT announced the progress on measures to combat financial fraudulent activities.



JULY 21

The BOT announced new measures to sustainably address household debt problems and on July 26 the BOT held a press conference with the Thai Bankers' Association and the Government Financial Institutions Association to advance sustainable solutions to household debt problems.

November

December

OCTOBER 10

The Anti-Money Laundering Office (AMLO), the BOT, and the Thai Bankers' Association held a joint press conference on the identity verification procedures during cash deposits at automated teller machines to enhance security.

OCTOBER 15

Representatives from the Ministry of Finance and the BOT signed an MOU on hosting the IMF-WBG Annual Meetings in 2026.



NOVEMBER 30

The BOT issued a public consultation on Open Banking Data for Consumer Empowerment.

DECEMBER 4

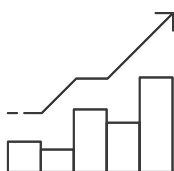
The Hong Kong Monetary Authority and the BOT launched the cross-border QR payment service between the two countries to provide travelers with a fast, secure, and easily accessible payment service.



Ensuring Resiliency : On the Path of Sustainable Recovery

In 2023, the Bank of Thailand (BOT) conducted monetary policies together with other measures to ensure a sustainable recovery and stability of the Thai economy. Despite the recovery from 2022 with a rebound in key economic drivers such as private consumption and tourism, economic activities had not run at its full capacity and were exposed to several challenges from both domestic and external factors.

This section discussed the overall state of the Thai economy, key risks and challenges as well as the policies implemented by the BOT in order to ensure a sustainable growth and stability.



The Thai economy expanded at a slower pace than anticipated with uneven recovery.

In 2023, the Thai economy continued to gradually recover after being affected by the COVID-19 in 2020 with an expansion rate of 1.9 percent, slowing down from the previous year's 2.5 percent. The headline inflation was within the target range, being at 1.2 percent compared to the previous year's 6.1 percent.

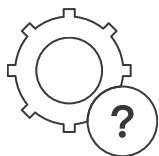
Economic growth was mainly driven by private consumption and activities in the service sector, with tourism playing a significant role. Nevertheless, the pace of overall economic recovery was sluggish, hindered by muted rebounds in certain sectors such as manufacturing and exports. These sectors were affected by a slowdown in the global economic growth, which was partly due to ongoing geopolitical conflicts, the persistently high inflation across the globe. Additionally, structural shifts in the global demand led to a decline in Thailand's competitiveness, further slowing the recovery.

1 \ The global economy gradually improved with limited benefits to Thailand.

The global economy in 2023 gradually recovered, albeit amidst several challenges and uncertainties. These include (1) rapid increases in interest rate of major economies to curb inflation, leading to a confidence crisis in financial institutions in the US and Europe and negatively impact real economic activities, (2) prolonged sluggishness China's real estate sector, and (3) geopolitical conflicts, including tensions between China and the US, the war between Russia and Ukraine, and conflicts between Israel and Hamas.

In addition, the global economic recovery was primarily driven by the service sector, resulting in a sluggish worldwide industrial production and a high inventory level

in various business sectors. This led to a slowdown in global trade volume, impacting both Thailand's export and manufacturing sectors. Thailand's goods export and manufacturing production in 2023 contracted by 1.7 percent and 3.2 percent, respectively. Certain Thai exports categories were also affected by global economic structural changes. For instance, demand for exported petrochemical products sharply declined as China became more self-reliant in producing these goods. Additionally, hard disk drives (HDDs), one of Thailand's major export products, are gradually being replaced by solid state drives (SSDs), which offer more advanced technology.



2 \ The Thai economy continued to recover driven by a growth engine distinct from the past.

The Thai economic recovery continued to be driven by the service sector, particularly tourism. This was reflected by the number of Thai tourists exceeded the pre-pandemic (2019) level starting from March 2023. Concurrently, the number of foreign tourists increased 2.5 folds from the previous year, reaching 28.2 million visitors, which translated into a recovery rate of 71 percent compared to the pre-pandemic level. These developments helped improve economic activities in the services and related sectors, including hotels and restaurants.

However, the recovery of tourist arrivals varied across different nationalities. Short-haul travelers, particularly from Malaysia and India, displayed a strong recovery. In contrast, the recovery in Chinese tourists was relatively slower, with a count of only 3.5 million visitors compared to the pre-pandemic figure of 11.1 million. This was partly due to China's policies promoting domestic tourism.

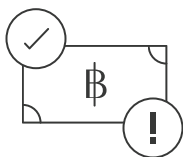
Furthermore, the recovery rate of tourism revenue was slower compared to the number of tourists. This was attributed to the larger share of short-haul travelers to total travelers because they generally spent less per trip than the overall average, and tourists were likely lower their spending during trip compared to pre-COVID-19 pattern. Nevertheless, the overall recovery in tourism supported job creation in the service industry, induced income expansion, restored consumer confidence, and played a significant role in bringing unemployment rates as well as labor employment back to the pre-COVID-19 levels in the second half of the year. These developments contributed to a robust 7.1 percent expansion in private consumption, primarily driven by increased spending in the service sector.



3 \ The government implemented policies to promote consumption and lower living cost.

Strong consumption growth was supported by a range of government measures. These included subsidies for low-income individuals via the state welfare card, continued subsidies on electricity and fuel prices since the beginning of the year, as well as several other measures aimed at stimulating consumption. For instance, the “Shop Dee Mee Kuen” campaign was launched early in the year, followed by “We Travel Together” campaign, together with additional subsidy programs towards the end of the year on fuel prices and a fare cap of 20 baht for certain electric train routes, specifically the red and some parts of the purple lines.

Nevertheless, the election that took place in 2023 resulted in a postponed formation of the new government. This delay consequently impacted the revision of the fiscal year 2024 budget. As a result, fiscal spending, particularly public investment, was affected in the last quarter of 2023.



4 \ The overall financial stability remained intact with some vulnerable groups warranted a close monitoring.

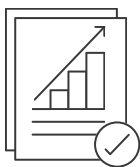
Headline inflation fell back to the target range from 6.1 percent in 2022 to 1.2 percent in 2023. The disinflation was partly due to lower global oil prices, government subsidies on living costs, and lower food prices, especially pork, following an increase in supply. Regarding the exchange rate, the Thai baht experienced increased volatility, mainly due to changes in the expectation of the US monetary policy stance and certain domestic factors, which intermittently influenced the exchange rate. On average, the baht stood at 34.81 baht per US dollar, gaining strength compared to the previous year. Thailand's net international reserves reached 255 billion US dollar by the end of 2023, exceeding short-term external debt by 2.3 times³. The current account became a surplus, registering at 6.6 billion US dollar thanks to an improvement in the services, income and transfers primarily from increased tourism revenue.

The financial sector remained robust as reflected by a high BIS capital ratio within the banking system of 20.1 percent and a low non-performing loan (NPL) ratio of 2.7 percent. However, debt serviceability in certain groups remained precarious, particularly low-income households and SMEs, which could be affected by higher costs of finance. Also, certain businesses may experience debt rollover risks due to their own specific factors, which required a close monitoring.



The Monetary Policy Forum is held quarterly by the BOT, with the BOT's executives participating in order to communicate economic issues to analysts and the press.

³Data on the ratio of international reserve to short-term debt was as of the third quarter of 2023



BOT policies and measures for ensuring resiliency



In MPC meetings, MPC members discuss the economic situations, trends, forecasts, and the likelihood effects of policy decisions.

In 2023, the Thai economy continued its recovery path, albeit with unevenness and slower growth than expected. The inflation rate subsided. The financial stability was sound but there remained some vulnerabilities, particularly elevated household debt and exposure to uncertainties both domestically and globally. Considering these challenges, the BOT implemented policies and measures which aimed at ensuring resiliency. These efforts focused on three key policy areas: (1) monetary policy normalization (2) comprehensive and sustainable debt solutions and (3) Thai financial landscape development to cope with global megatrends, such as digital advancements and environmental sustainability.

1 \ Monetary policy normalization

Throughout 2023, the Monetary Policy Committee (MPC) gradually raised the policy interest rate by 0.25 percentage points in each meeting, culminating in a total of five adjustments. This brought the rate to 2.50 percent, up from 1.25 percent at the beginning of the year, aligning with the ongoing economic recovery. The rationale behind these adjustments was to shift from highly accommodative interest rate implemented during the COVID-19 pandemic to a more neutral level that would foster resilient and sustainable economic growth.

1 \ Align monetary policy with the future economic outlook

In 2023, the Thai economy continued its recovery path, albeit with unevenness and slower growth than expected. The inflation rate subsided. The financial stability was sound but there remained some vulnerabilities, particularly elevated household debt and exposure to uncertainties both domestically and globally. Considering these challenges, the BOT implemented policies and measures

which aimed at ensuring resiliency. These efforts focused on three key policy areas: (1) monetary policy normalization (2) comprehensive and sustainable debt solutions and (3) Thai financial landscape development to cope with global megatrends, such as digital advancements and environmental sustainability.

2 \ Normalize the monetary policy towards the neutral stance to maintain long-term stability

The MPC gradually adjusted the policy interest rate to align with economic recovery and long-term financial stability. Persistently low interest rates could have unintended consequences for the stability of the financial system. For instance, the low interest rate urges investors to take excessive risks in pursuit of higher returns, thus underpricing risk.

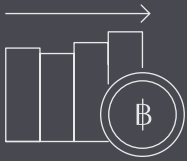
The MPC always considers the situation and context of the Thai economy as a primary factor in its decision-making. Unlike central banks in advanced economies, which have raised the policy interest rate beyond the neutral stance to tackle high inflation, the BOT has instead gradually adjusted the policy interest rate towards a neutral stance consistent with sustainable economic growth and long-term stability.

3 \ Build up economic resiliency to cope with future risks

Amid the backdrop of ongoing economic recovery, there is an opportunity for monetary policy to build up policy space by increasing the policy interest rate in readiness for future shocks. Such preparation contributes to economic resiliency. In recent years, the Thai economy has faced challenges in accumulating policy space due to various crises and persistent risks. These factors have necessitated accommodative monetary policy, especially during the COVID-19 pandemic, which saw the policy interest rate reduced to an unprecedented level of 0.50 percent.

However, the MPC recognizes that rising policy interest rate could impact the balance sheets of vulnerable households and businesses, especially

households with high level of debt. Therefore, the MPC has adopted a gradual and measured approach to adjusting policy interest rate, carefully assessing the multifaceted impacts in each policy meeting. Furthermore, the MPC supports the continuation of sustainable debt resolutions and debt restructuring measures for vulnerable groups, particularly responsible lending measures. These targeted measures are more effective and have less unintended consequences compared to policy interest rate, which is a blunt policy tool.



BOX 1 | Monetary policy normalization in 2023

In 2023, monetary policy was heading towards normalization with three key principles: (1) Outlook dependent approach (2) Comprehensive and flexible policy framework (3) The intertemporal trade-off between short-term and long-term outcomes.

\ Monetary policy principles

1. Outlook Dependent Approach

Monetary policy formulation requires clear and comprehensive assessment of economic outlook, based on recent data, future trends, and balance of risks, given its 4 to 8 quarter lag time for full effect on the economy. Relying solely on recent data can be misleading, as it may be influenced by temporary shocks or unusual factors. For example, negative inflation observed at the end of 2023 was primarily due to government subsidy measures rather than weakened demand, and inflation was expected to eventually rise and become positive. Responding to fluctuating recent data by adjusting the policy interest rates would introduce destabilizing factors into the volatile situation and deteriorate the economic stability.

In addition to GDP and inflation, which are fundamental for economic evaluation, the BOT collects and analyzes a wide range of macro- and micro-economic indicators. These include employment figures, industrial production, merchandise exports, number of tourists, as well as qualitative data such as industry outlooks and sectoral insights from the Business Liaison Program (BLP). Utilizing all information from various angles broadens the scope of analysis and provides a clearer picture of the economic outlook.

2. Comprehensive and Flexible Policy Framework

The BOT adopts a flexible inflation targeting framework as its monetary policy framework. This framework has three objectives: (1) maintaining the headline inflation rate between 1-3 percent in the medium term (2) supporting sustainable economic growth in line with the long-term potential, and (3) preserving financial stability. Each monetary policy decision must carefully balance these three objectives, while remaining flexible and responsive to the evolving situation and outlook.

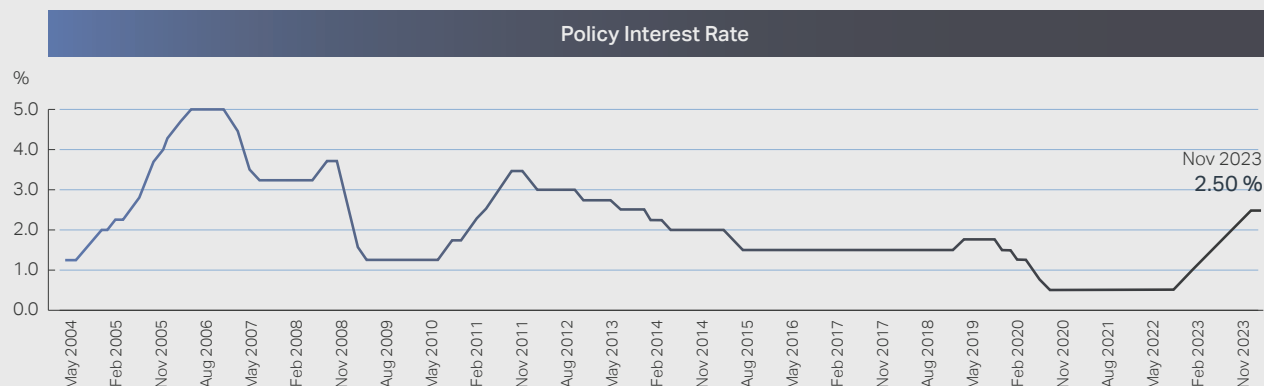
3. The intertemporal trade-off between short- and long-term outcomes

The Thai economy faced a tremendous challenge during the COVID-19 pandemic from 2019 to 2022. Accommodative monetary policy implemented during this period, characterized by low interest rates, boosted economic activities, and drove the economy forwards. However, prolonged maintenance of low interest rates poses long-term fragilities. These include debt overhang, suboptimal investments projects, and underpricing of risks behavior, all of which can ultimately damage economic growth. Therefore, the MPC seeks to strike a balance between short-term benefits and long-term consequences carefully to achieve macro-financial stability.

\ Monetary policy decisions in 2023

Throughout 2023, the MPC continued its gradual increase of the policy rate from the previous year by 0.25 percentage points in each meeting, totaling five adjustments and bringing the policy rate from 1.25 percent to 2.50 percent. This aligned with the economic recovery

trend driven by private consumption and tourism sector. Inflation remained low due to a high base in the previous year and government measures that reduced the cost of living and energy prices.



Gradually increasing the policy rate following an extraordinary accommodative stance during the COVID-19 pandemic signified a normalization of monetary policy towards a neutral interest rate, consistent with sustainable economic growth in the long run. This transition would yield three outcomes: (1) balancing investment, saving, and consumption to maintain price stability and purchasing power (2) creating adequate policy space to cope with future shocks, and (3) reducing the accumulation of vulnerabilities in the financial system, thus preserving financial stability.

Nevertheless, the MPC recognizes that vulnerable groups, especially small businesses and high-debt households, are more susceptible to interest rate increases. The MPC thus supports sustainable debt solutions, particularly measures requiring financial institutions to provide targeted debt restructuring. These targeted measures are deemed more effective and have less cost to macro-financial stability compared to policy interest rate, which is considered a blunt policy tool.

\ Monetary policy outlook

Looking ahead, the MPC anticipates continued expansion in the Thai economy and expects inflation to stay within the target range. The MPC will consider growth and inflation outlook as well as associated risks in deliberating

monetary policy, while remaining ready to make necessary adjustments should the situation or outlook deviates from the current assessment.

2 \ Sustainable and comprehensive debt resolution

The BOT continued to issue measures to resolve existing debt problems and offer new funding to assist all types of debtors, including retail entrepreneurs, SMEs, and corporates. The measures were designed to be in line with circumstances in each period of time. In the initial stages where the economy was harshly affected by the COVID-19 pandemic, the BOT focused on measures that had widespread impacts in the short run to tackle severe circumstances and to solve immediate problems. Nevertheless, in the later periods, the adverse effect of the crisis tended to be prolonged, and the economy witnessed uneven recovery (K-shaped). The BOT therefore issued measures targeted on specific groups of debtors in order to ensure that the financial system adequately allocated resources to assist the severely affected debtors.

In 2023, the BOT gradually amended the measures towards normal conditions (policy normalization) in line with the recovering economic trend. However, a number

of measures were still implemented to lessen financial burden on debtors in economic sectors which has yet fully recovered. Examples were the long-term debt restructuring measure which supported sustainable debt restructuring for business operators and retail customers, maintaining a reduction in the minimum credit card repayment rate of 5 percent from 10 percent, as well as extending the repayment period of digital personal loan from 6 months to 1 year until the end of 2023.

Furthermore, the BOT provided supplementary channels for debtors who were struggling with debt repayment ; namely Debt Exit Fastlane which is an online platform for debtors to submit their requests for assistance when they are unable to keep up the installment payment, Doctor Debt which is a comprehensive debt counselling channel for individuals and SMEs, and Debt Clinic which is a debt restructuring program for non-performing credit cards, cash cards and unsecured personal loans.



“

During the COVID-19, there were only few customers. So, earnings were not enough to pay for a mortgage and car hire purchase. At that time, I hoped there would be a debt assistance program to help me out. Finally, my prayers came true as banks contacted me. I was granted debt moratorium for 3 months. I also had my debt restructured, then my installment was lowered, and the repayment period was extended. My business now survives, gets better, and can continue to operate.

”

Uncle Tuck – street coffee vendor

As for the Asset Warehousing program which allowed business operators to transfer collateral assets to repay their debts and have the right to repurchase within a specified period, the program was ended on April 9, 2023, due to the economic recovery. The remaining credit line of 25,886 million baht was transferred to be utilized under the rehabilitation measures⁴ which focused on credit

granting to increase liquidity and support business recovery in the early stages. Afterwards, the BOT amended the conditions of the measures to help facilitate business adaption to the post COVID-19 situation (Transformation Loan) and extended the measure for another year to April 9, 2024

⁴ The initial credit line of 250,000 million baht for the rehabilitation measures (Special Loan) has already been used up. The remaining amount was transferred from the Asset Warehousing program.



//

We, the entrepreneurs, discuss with the BOT both formally and informally. We also participated in activities and exchanges of opinions outside the meeting rooms. All these are to regularly reflect the entrepreneurs' challenges we learn about from the members of the tourism council so that the financial sector has an insight of the actual business circumstances. An example is that there is limitation in practice regarding credit granting by the commercial banks with measures to assist the private sector. We would also like to inform the BOT about an assistance we are seeking; for instance, access to funding and Asset Warehousing scheme.

//

Mr. Sompol Chevawattanapong,
the President of Tourism Council of Songkhla province

For the year 2024, the BOT will continue to progressively adjust the measures towards normal conditions. The minimum credit card debt repayment rate is increasing to 8 percent in 2024 and returning to the normal rate of 10 percent in 2025. In this regard, the BOT sees that as the economy is on a recovering trend, the further extension of the reduction in the minimum credit card debt repayment rate will have an adverse effect on the debtors. This is because it will take debtors longer to pay off debts, hence larger amount of interest burden.

However, it is possible that a number of debtors may not be able to cover the increased minimum credit card debt repayment rate. In that case, there are alternative solutions which are more targeted on such debtors. For example, financial institutions would offer a conversion of

credit card debt to term loan by extending the repayment period and, in some cases, lowering interest rates as well as recalculating the installments to be in line with the debtors' repayment affordability, which will help accelerate the payoff.

Additionally, the BOT is issuing new measures in order to be more targeted and sustainable in dealing with household debts. In this regard, the standard of the credit granting process will be enhanced according to the regulation on responsible lending which will come into effect from January 1, 2024, onwards. The regulation requires creditors to offer debt restructuring solutions to debtors in distress, to help find solutions for persistent debt to be fully repaid, and to provide debtors with fairer protection.



//

The sales after COVID-19 are still not so good. However, I have adapted myself by seeking additional earnings from other sources because I have to pay for a mortgage and car hire purchase. I was fortunate that, during COVID-19, banks granted me debt moratorium and later restructured my debt by lowering my installment and extending the repayment period. I am very grateful for this kind of scheme. The assistance I have received so far is tremendous. From now on, it will be my own duty to manage monthly earnings and expenses like utility bills appropriately. Someone told me that we should record earnings and expenses in a household account every month, and I always do that since then.

//

Ms. Wan, a lottery seller

Responsible lending

The essence of the regulation on responsible lending is as follows:

\ **Continuing to assist debtors through debt restructuring:** debtors will be offered debt restructuring solutions which are appropriate to their ability to pay. Creditors shall offer, at least once each, a product program for debtors starting to face repayment difficulties but not yet classified as non-performing loans (NPL); and when debtors already classified as NPL, especially before taking legal actions, selling-off debts, terminating contracts, or seizing properties.

\ **Assisting persistent debtors among the vulnerable groups to pay off their debts within 5 years:** (persistent debtor is defined as low-income debtors with revolving personal loans under the BOT's supervision that are not yet classified as NPL and have proportionately higher interest payment than principal payment over the past 5 years) the qualified debtors will be offered an interest rate not exceeding 15 percent per annum. This shall come into effect from April 1, 2024 to allow time for service providers to adapt their operating system.

\ **Fairer debtor protection:** Actions will be taken to ensure that debtors are charged with fairer interest rates and fees; for instance, no prepayment fees shall be applied

for personal loans, no interest rates shall be charged on interest charges for all types of retail credits. Moreover, debtors shall receive important information that are accurate, comprehensive, as well as comparable; and be equipped with sound financial discipline through information provided by service providers to nudge debtors' behavior throughout a debt journey.

In the meantime, the BOT is considering additional household debt measures. The first measure is to establish a mechanism to set interest rates in accordance with debtors' risk profile (risk-based pricing: RBP). The RBP is aimed at increasing an opportunity for debtors whose risks are higher than the current interest rate ceiling to access the formal credit services, while the low-risk debtors or those with good credit history will likely be charged at the rates lower than the current interest rate ceiling. This will also help promote sound credit culture. The second measure is to set the debt service ratio (DSR) to enable creditors to grant credits that are in line with debtors' ability to pay and prevent over-indebtedness. Prior to implementing the DSR measure, the BOT will assess the prevailing economic conditions and communicate with the public and financial service providers in advance so that both stakeholders have time for adaption.



Miss Suwannee Jatsadasak, Assistant Governor of the Supervision Group, was talking to the media on issues of household debts and progress in formulating sustainable household debt solutions.



BOX 2 “Debt will finally end one day”

True stories of debtors who pay off debts – correct mistakes - move on to a sustainable restart.

Amidst the worrying circumstance that Thailand’s household debt level remains high, the BOT has realized and been concerned about the Thai people’s financial difficulties. The comprehensive debt assistance policies are therefore implemented continuously through various projects and measures. Examples include “Doctor Debt” program providing debtors with personal debt counseling services, “Debt Exit Fastlane” program functioning as a supplementary channel that allows debtors to submit requests for debt assistance to their creditors via the BOT, and “Debt Clinic” program offering a debt restructuring program for non-performing credit cards and unsecured personal loans with more relaxed terms and conditions.

Having worked closely with debtors struggling with debt repayment, the BOT has learned more about solving debt problems in practice. The BOT has also gained comprehensive insight from various debtors’ true stories, which will help the BOT enhance policies and measures and better understand the Thai people’s living.

Most importantly, a debtor’s success story in getting out of debt traps will encourage and inspire other debtors who are attempting to solve their debt problems.



The BOT Doctor Debt was continuously providing personal debt counselling services to debtors in all regions.

"Doctor Debt", a personal debt counselling service for debtors who are finding a way out of debt traps

Detail of the case:

Getting stuck because of COVID-19 and a family member's illness, a senior citizen had run a clock repair and a key-making shop for 11 years. His business went well and therefore he could regularly repay his credit card which he used for buying tools and parts for his job. Unfortunately, sales plummeted during COVID-19. As he was not good at using online channels, it was hard to find customers for extra earnings. Meanwhile, a family member was diagnosed with cancer. Thus, decreasing expenses was also not a viable option for him. Finally, he decided to withdraw cash from personal loan cards to pay for the credit card debt. The situation went on and resulted in debt piling up, the ability to pay declining to only at the minimum repayment rate, and almost unable to pay. At that time, he had no idea about what he should do to solve his problems.

Turning point: meeting "Doctor Debt" the debtor happened to see an advertisement about the Doctor Debt program, he therefore registered for a counseling session. After informing about the situation he was facing, the BOT Doctor Debt advised him to negotiate with his financial institution creditors and make a request to participate in the creditors' debt restructuring programs. The BOT Doctor Debt also emphasized that the debtor himself needed to consider thoroughly his actual ability to pay; for example, he may ask his creditor to extend his repayment period to 5 years so as to decrease his monthly debt payment. At present, the creditors have agreed to extend the repayment period. Thus, he becomes less worried about the prevailing debt burden and can keep a good relationship with the financial institutions.

Detail of the debts:

5 credit cards and cash cards, representing a total debt of 300,000 baht. The debtor could only pay at the minimum repayment rate and anticipated that he was about to be unable to pay and would become NPLs shortly.

"Debt Clinic", a debt relief program to assist credit card and personal loan debtors with a debt default status of more than 120 days to keep going.

Detail of the case:

Overspending and lack of repayment discipline: a head of one family had overwhelming credit card and cash card debts. He spent the money on luxuries and daily necessities, hence a large amount of expenses each month. The situation deteriorated to the point that he was unable to afford the minimum payment on a credit card and the financial institution creditors started the collection process. He was thinking about taking his own life as he was so stressed and could not see the way out of his debt trap.

Turning point: entering the debt restructuring program provided by "Debt Clinic". The debtor consulted Sukhumvit Asset Management Company (SAM) and found that SAM offered a better option to solve his debt problem. That is, the interest rate dropped sharply to 5 percent from previously higher than 20 percent with monthly installments up to 10 years. When considering his ability to pay, he concluded that he was able to repay 4,500 baht per month. It would take him less than 10 years to pay off debt and could continue to take care of his family. His debt outstanding is now only 180,000 baht. Moreover, he is determined to be disciplined to pay off his debt in 5 years.

Detail of the debts:

credit cards and cash cards with a total debt outstanding of 300,000 baht. People around the debtor told him to renege on his debts and await being sued by creditors. He considered himself fortunate for not taking such advice.

Debtors' lessons learned

- \ Financial knowledge and discipline are the musts!
- \ Differentiate "need" and "want" to cut expenses, and hence lower chances to get into debt.
- \ Repay debt as it is the debtors' responsibility for themselves and society.
- \ Seeking the reliable and impartial sources of advice will lead to appropriate solutions.



The BOT Doctor Debt was continuously providing personal debt counselling services to debtors in all regions.

3 \ Repositioning Thailand's financial landscape for a sustainable digital economy

In February 2022, the BOT issued a public consultation on “Repositioning Thailand’s Financial Sector for a Sustainable Digital Economy” to lay out the BOT’s underlying principles and policy directions in the new financial landscape. The BOT continuously advanced policies on digital finance and environmental sustainability to ensure the financial sector is prepared to face significant challenges ahead and able to support the economic transition with minimal impact.

In terms of digital finance, the BOT focused on enabling the financial sector to use technology and data to develop responsible innovations and financial services that served consumer needs under three key principles: (1) Open Competition: Encouraging competition among existing and new players. (2) Open Infrastructure: Allowing different service providers to access financial infrastructure at reasonable and fair costs. (3) Open Data: Enabling better utilization of data.

The BOT, in collaboration with relevant agencies, has made significant advancements in digital financial infrastructure and innovations. For instance, cross-border payment connectivity was established with Japan, Cambodia, Vietnam, Malaysia, Indonesia, Singapore, and most recently, Hong Kong. These efforts aimed to support trade and tourism between Thailand and these countries. Moreover, the PromptBiz system was launched to facilitate digital trade payment and supply chain finance services for businesses. The BOT was also in the process of promoting the establishment of Virtual Banks that will primarily offer services through digital channels, providing new financial services that better meet the specific needs of consumers, especially the underserved segment where individuals and SMEs did not receive services suitable for their needs. More importantly, the introduction of Virtual Banks will encourage healthy competition within the Thai financial institution system without compromising financial stability or harming the interests of depositors or the customers at large.

Furthermore, the BOT had gradually reviewed and updated supervisory frameworks to be flexible and risk proportionate, avoiding hindrance to the development of innovation and adaptation by financial institutions in the new landscape. Moving forward, the BOT will drive a mechanism that allows customers to exercise their rights to request or transfer their data between service providers or agencies (Open Banking Data for Consumer Empowerment), enabling convenient and secure service applications with other providers. The mechanism will enable service providers to access and utilize data stored at various sources, leveraging key digital infrastructure to develop innovations. Service providers can also experiment with new technologies which facilitate improvements in financial services.

For environmental sustainability, the BOT recognized the need for the Thai economy to adjust in terms of both mitigation (reducing greenhouse gas emissions and pollution) and adaption to the impacts of climate change and other environmental factors. The BOT established policy guidelines for environmental sustainability development within the new financial landscape in Thailand. These guidelines aim to achieve two key outcomes for the financial sector: (1) ability to assess environmental impacts, including risks and opportunities, and systematically incorporate environmental issues into business operations, and (2) availability of financial products and services that support businesses’ adaption and transition toward environmental sustainability appropriately applicable to Thailand’s context. Environmental sustainability development could be mobilized through five essential building blocks.⁵

Significant progress in developing these building blocks in 2023 included setting policy directions to encourage financial institutions to take environmental and climate change into consideration when conducting business (standard practice) and defining the standards for categorizing environmental-friendly economic activities for Thailand’s energy and transportation sectors

⁵ Five essential building blocks consist of 1) Adjustment of financial institutions’ business processes to provide products and services that meet the needs of the business sector, 2) Common standards for grouping environmental activities (taxonomy), 3) A centrally accessible and systematic database and common disclosure standards for financial institutions (data and disclosure), 4) Appropriate incentive structures to support and promote environmentally related activities in the financial sector (incentive), 5) Knowledge and skills of personnel in the financial sector (capacity building) that are designed to align with the direction of sustainable development of the sector.

(taxonomy). Additionally, the BOT, in collaboration with commercial banks, SFIs, and the Office of the Cane and Sugar Board, developed a pilot project to provide financial support to the sugarcane and sugar industry on reducing

sugarcane burning and PM2.5 dust problems. In the future, financial institutions will be encouraged to develop products that support transition funding toward environmental sustainability with tangible results on a broader scale.



BOT Digital Finance Conference 2023 under the theme "Building Ecosystem for Responsible Innovation", held by the BOT during September 14-15, 2023, with 85 experts from 15 countries participating to exchange experiences and ideas in developing digital finance infrastructure and adapting innovation in financial sector



A seminar titled "Green and Transition Finance" hosted by the BOT to exchange views of the related private sector and government agencies, including the business sector's guideline for implementing Thailand Taxonomy to classify activities so that the businesses can be good examples of transition towards environmentally-friendly organizations





CHAPTER

3

Key Operations in response to BOT's Core Responsibility

- \ Creating Trust and Credibility in
Carrying out the Mandate of
Maintaining Economic and Financial
Stability
- \ Embracing Changes and Thrive
in the Digital Era through Innovation
- \ Building the Public Trust in the BOT
- \ Building the Public Trust in the BOT
- \ Strengthening Internal Excellence

Creating Trust and Credibility
in Carrying Out the Mandate of Maintaining
Economic and Financial Stability



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Preserving Macro-financial stability

\ Monetary policy

The Bank of Thailand (BOT) conducts monetary policy to foster sustainable economic growth and ensure price and financial system stability. In 2023, the Thai economy continued to recover despite a slowdown in exports and production sectors. The key economic drivers were the tourism sector and private consumption, which have been expanding continuously since 2022, along with increased employment and wages that are more widely distributed across various business sectors.

Meanwhile, headline inflation decreased and averaged within the target range of 1-3 percent. This was influenced by the reduction in global oil prices, government energy and oil price subsidies, and slower cost pass-through. However, the BOT will continue to closely monitor inflation risks in 2024. Factors such as heightened geopolitical tensions leading to higher-than-expected energy prices, a more severe El Niño phenomenon than anticipated, and the continuation of government energy price subsidies could lead to deviations from the baseline inflation scenario.

Financial system stability remained resilient overall, but the debt repayment ability of vulnerable households, SMEs, and businesses in certain industries remained fragile. Additionally, it is crucial to monitor businesses' ability to secure funding at higher costs due to tighter financial conditions.

The MPC deemed that, in the context of continuing recovery, monetary policy should keep inflation sustainably within the target range, enhance long-term economic stability, and preserve policy space to cope with future uncertainties. Therefore, the MPC implemented a gradual increase in the policy interest rate, raising it five times by 0.25 percentage points, from 1.25 to 2.50 percent at the fifth MPC meeting on September 27, 2023, and maintained it at this level until the end of 2023.



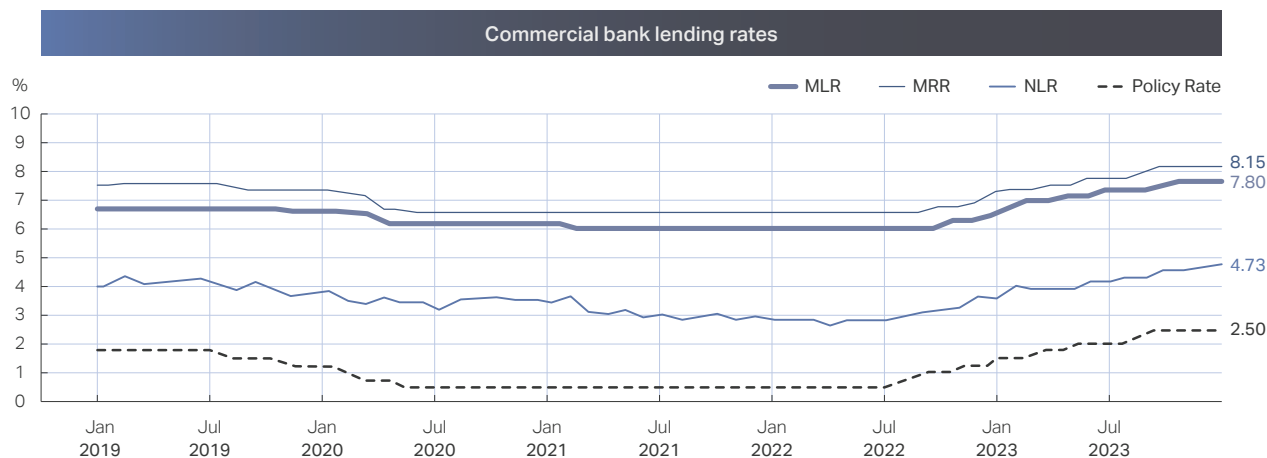
Dr. Piti Disyatat, Assistant Governor of the Monetary Policy Group, at the press conference on the MPC meeting result.

The interest rates of commercial banks and the government bond yields gradually rose in tandem with the policy interest rate, while private sector financing continued uninterrupted in both loan and bond markets. Commercial banks incrementally raised the reference interest rate for loans, resulting in an interest rate transmission of 61 percent⁶, comparable to the 56 percent pass-through observed in the past⁷. Specifically, the interest rate for prime large businesses (Minimum Loan Rate: MLR) had a transmission rate around 70 percent, while the interest rate for prime retail customers (Minimum Retail Rate: MRR) showed a lower transmission rate around 50 percent. The difference was due to commercial banks' concerns regarding the fragility of retail loans, with the most of their interest rates being referenced to MRR.

Despite higher financial costs, overall business financing remained robust. This was evidenced by an increase in aggregated volumes of financing in both loan and bond markets compared to the previous year. However, the primary contribution to this growth came from the bond market, while loan volumes contracted. The contraction in business loans could be attributed partly to debt repayments following significant loan expansion during the COVID-19 pandemic, as well as the cessation of financial measures. These factors resulted in loan volumes reverting to the pre-COVID-19 trend.

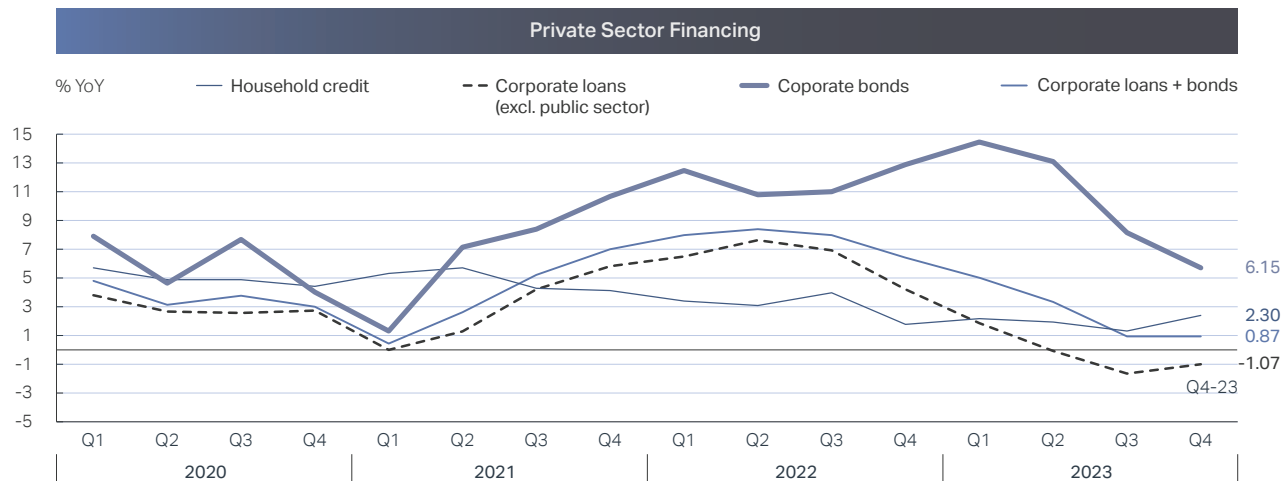
⁶ The interest rate transmission of policy interest rate to loan interest rate excludes the impact of adjusting the FIDF fee back to 0.46 percent.

⁷ An average of interest rate transmission in two previous interest rate hiking cycles (2004-2006, and 2010-2011)



Note: (1) monthly average of 14 commercial banks (data as of December 28, 2023) note that starting from September 2023, Thai Credit Bank becomes the 14th domestic commercial bank (previously there are 13 commercial banks). (2) New Loan Rate (NLR) is an interest rate of new loan weighted by loan's outstanding amount. (3) an increase in interest rate is not only a result from monetary policy normalization but also the impact of adjusting the FIDF fee back to 0.46%.

Source: BOT

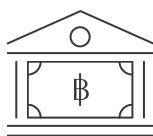


Source: BOT



Note: the trend is calculated using sample data from January 2015 - February 2020

Source: BOT



\ Monetary operations

The BOT's monetary operations are conducted to ensure that the prevailing money market rates are in line with the policy rate set by the MPC. This mechanism is essential for the effective monetary policy transmission. To achieve this, the operations are designed to maintain an appropriate liquidity condition under which the banking system can meet its liquidity demand, both for the maintenance of required reserves and for settlement balances.

Excess liquidity in Thai banking system remained at a high level. In 2023, it increased due mainly to a reduction in treasury cash balances at the BOT. As a result, total liquidity absorption increased by 60,429 million baht from the previous year. Adjustments were carried out via four open market operations instruments with details as follows.

1 \ Bank of Thailand bonds and bills issuance

The issuance of BOT bonds and bills is the principal channel used to absorb structural liquidity surplus in the system and to contribute to the development of Thailand's bond market by enhancing market liquidity and efficiency. In planning the bond issuance strategy, the BOT takes into consideration the prevailing market and liquidity conditions, as well as the government's funding plans.

In 2023, the overall supply of public sector debt securities remained elevated. The BOT and the Public Debt Management Office (PDMO) collaborated closely with a view to maintain an appropriate level of supply of treasury bills, government bonds, and BOT bonds, subject to investor demand for public sector debt securities. To this end, the outstanding amount of the BOT bills and bonds was reduced by 172,656 million baht to 2,230,610 million baht at the end of the year. This accounted for approximately 37 percent of the total outstanding liquidity absorption.

Regarding the BOT bond issuance programme for 2024⁸, maintaining an appropriate overall supply of public sector debt securities remains a key consideration. The BOT will raise the minimum auction sizes for 3-month and 1-year bills to levels close to those before the outbreak of COVID-19. This adjustment reflects the increasing demand for short-term bonds, taking into account the overall supply of government bonds. Meanwhile, the issuance of floating-rate bonds (FRB) linked to the Thai Overnight Repurchase Rate (THOR) index will be continued to help promote the use of THOR as a new reference rate in derivatives and cash products, and to expand the choice of fixed-income instruments in the market.

⁸ For more details on the BOT bond issuance program for 2024, please refer to <https://www.bot.or.th/en/news-and-media/news/news-20240112.html>

2 \ Bilateral repurchase transactions with primary dealers

The BOT uses Bilateral Repurchase (BRP) transactions with appointed BRP Primary Dealers (BRP PDs) to manage short-term liquidity fluctuations, particularly those resulting from government cash flows and seasonal factors, such as demand for currency. To enhance the signaling of the MPC's stance, the 1-day BRP transactions are conducted as a fixed-rate tender at the policy rate. Meanwhile, Term BRP transactions (7-day, 14-day, and 1-month tenors) are executed as variable rate tenders, in the form of spreads over the policy rate (Indexed BRP). Thus, the interest rates earned on these Term BRP transactions will vary with changes in the policy rate over the duration of the transactions.

BRP transactions are carried out with BRP PDs in the morning of every business day⁹. These BRP PDs serve as liquidity adjustment intermediaries between the BOT and other financial institutions, through the use of private repo transactions or uncollateralized interbank markets. This BRP PDs scheme helps support financial market development by fostering an adoption among interbank participants of market practices that are in line with international standards.

In 2023, liquidity absorption through BRP transactions increased by 225,902 million baht. At year-end, BRP transactions totaled 2,751,807 million baht, which accounted for approximately 45 percent of the total outstanding absorption.

3 \ Foreign exchange swap transactions

The foreign exchange swap (FX swap) transactions are used as a supplementary absorption tool, as they can be adjusted fairly flexibly according to the BOT's liquidity absorption needs and market conditions. In 2023,

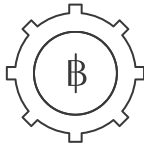
outstanding FX swap transactions decreased by 8,002 million baht to 1,066,352 million baht or 30,340 million USD at year-end. They constituted approximately 18 percent of the total outstanding absorption.

4 \ Outright purchases and sales of public sector debt securities

The BOT can permanently inject liquidity into or drain liquidity from the banking system by purchasing or selling outright public sector debt securities with appointed e-Outright counterparties. In 2023, the BOT purchased a total of 82,592 million baht in public sector securities. Meanwhile, 101,094 million baht of public sector securities held in the BOT's portfolio matured during the year. In sum, outstanding securities in the BOT portfolio fell by 18,502 million baht in 2023.

The BOT also operates end-of-day liquidity adjustment windows in the form of overnight standing facilities, which include the Lending and Deposit Facilities. Through these windows, financial institutions with liquidity deficit or surplus at end-of-day can borrow or deposit funds overnight at policy rate plus or minus 50 basis points, respectively. The interest rates on the Deposit and Lending Facilities together form an interest rate corridor that helps limit short-term volatility in the money market interest rates. In 2023, most transactions in the end-of-day liquidity adjustment windows were deposits, which averaged around 4,524 million baht per day.

⁹ Except on days of MPC meetings where BRP transactions are carried out in the afternoon instead after the release of MPC interest rate decision.



\ Financial market development

In the past 4-5 years, the BOT and market participants had jointly prepared for the cessation of the Thai Baht Interest Rate Fixing (THBFIX), while the market liquidity of the new reference rate, Thai Overnight Repurchase Rate (THOR), has continuously improved since its first publication in 2020. All outstanding THBFIX contracts had been transitioned to reference alternative rates. With the cooperation from all stakeholders in the financial and private sectors, the THBFIX smoothly discontinued on July 1, 2023 without any disruption to the financial market.

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แล้วใช้ดอกเบี้ยอะไรแทนได้บ้าง

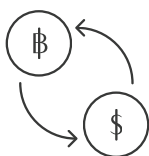
	THOR	Fallback Rate (THBFIX)
คืออะไร?	อัตราดอกเบี้ยตัวใหม่ที่จัดทำขึ้น เพื่อเป็นอัตราดอกเบี้ยอ้างอิง สำหรับธุรกรรมในตลาดการเงินไทย	เป็นอัตราดอกเบี้ยที่จัดทำขึ้นชั่วคราว โดยพยายามให้เทียบเคียงได้กับ THBFIX
ข้อดี	<ul style="list-style-type: none"> 👍 เคลื่อนไหวตามดอกเบี้ยนโยบาย สอดคล้องตามภาวะเศรษฐกิจในประเทศ 👍 บิดเบือนได้ยาก เพราะคำนวณจากธุรกรรมจริงที่มีปริมาณมาก 👍 เป็นอัตราดอกเบี้ยที่จะเผยแพร่ต่อเนื่อง ดังนั้นไม่ต้องแก้ไขสัญญาเพื่อเปลี่ยนดอกเบี้ยหลายครั้ง 👍 อยากรับความเสี่ยง (hedge) สินเชื่อเพิ่มเติมก็ทำได้ 	<ul style="list-style-type: none"> 👍 คำนวณโดยใช้หลักการเดียวกับ THBFIX เดิม 👍 ปรับสัญญาได้ง่ายหากเป็น สัญญาอนุพันธ์ภายใต้ ISDA
ข้อเสีย	สัญญาอนุพันธ์ต้องเจรจาปรับที่ละสัญญา (เสียเวลาหน่อย แต่ถ้าทำล่วงหน้าก็ทันนะ)	<ul style="list-style-type: none"> 😞 เผยแพร่ชั่วคราวถึง ณ สิ้นปี 2568 เท่านั้น 😞 ถ้าไปใช้อ้างอิงในการทำสัญญาใหม่ไม่ได้ เช่น ไม่สามารถ hedge สินเชื่อใหม่เพิ่มได้ 😞 ถ้าต้องการยกเลิกสัญญาสินเชื่อและอนุพันธ์เก่า จะลำบากในการหาราคาเพื่อยกเลิกสัญญา เพราะ ไม่มีใครใช้ Fallback Rate (THBFIX) ทำสัญญาใหม่ กันแล้ว ดังนั้น ปีโอกาสที่ราคาอาจจะไม่ดี



Fallback Rate (THBFIX)
 ข้อเสียเยอะ ใช้ยาก แกรมต้อง
 เปลี่ยนไป THOR อยู่ดีสินะ ...

 Bank of Thailand

BOT's infographic communicating about the transition to use THOR as new reference rate in replace of THBFIX



\ Foreign exchange regulations

The BOT has continued to relax foreign exchange regulations under the New Foreign Exchange Ecosystem Development Plan. In September 2023, the BOT further relaxed regulations on non-residents' transactions related to Thai baht, undertaken with onshore financial institutions, to provide more flexibility and lessen the burden of supporting documents for non-residents having trade or investment in Thailand. The relaxations were as follows:

(1) Allowing non-residents providing cross-border payment services to participate in the Non-resident Qualified Company Scheme (NRQC) which would enable them to conduct transactions related to Thai baht with onshore financial institutions without having to submit supporting documents and deposit Thai baht into Non-resident Baht Accounts (NRBAs) without being subject to the end-of-day outstanding balance limit.

(2) Relaxing the requirement on supporting documents for transactions related to Thai baht other than those under the NRQC scheme to provide more flexibility for non-residents having trade and investment in Thailand in conducting such transactions. This also allowed non-resident end beneficiaries investing in securities in Thailand to be able to conduct foreign exchange hedging transactions with onshore financial institutions directly without proceeding through global custodians.

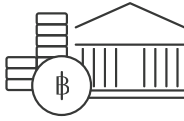
Apart from the relaxations under the FX ecosystem plan mentioned above, the BOT also eased the regulations on conduct of foreign exchange businesses in April 2023 allowing non-bank foreign exchange business operators to display their permits electronically in the form of images on electronic devices or QR codes instead of in the physical form at their service locations to facilitate and lessen the burden on the businesses.

In addition, the BOT was revising the regulations on conduct of foreign exchange businesses to allow more flexibility in providing the services at branches and through other service channels which will improve access to the services. Moreover, foreign exchange business operators will be allowed to be registered in order to test new technology in a sandbox environment which would contribute to financial development.

The BOT will continue to implement its relaxation plan on outward transfer to further facilitate trade and investment and enhance ease of conducting foreign exchange transactions.



Mrs. Alisara Mahasandana, Deputy Governor, Monetary Stability, and Miss Pimpan Charoenkwan, Assistant Governor, Financial Markets Operations Group, in a press conference relating to the progress of the New Foreign Exchange Ecosystem Development Plan on June 27, 2023.



\ Foreign exchange reserve management in 2023

The high volatility in global financial market in 2023 was primarily a result of four factors. First, major central banks adopted a data-dependent approach in response to surprisingly resilient economic growth and persistent inflation, leading to constantly shifting market expectations. Second, China's economic recovery from COVID-19 did not occur as swiftly as the market had anticipated, a situation exacerbated by ongoing weakness in the real estate market. Furthermore, the collapse of large regional banks in the US in the first half of 2023 sparked concerns about potential systemic risk and a possible recession. Lastly, ongoing conflicts in the Middle East and the Red Sea also heightened geopolitical risks.

Managing foreign exchange reserves in such a volatile financial market required close monitoring and comprehensive risk analysis, with a view to achieve three investment objectives that the BOT adhered to: safety, liquidity, and appropriate risk-adjusted returns. In so doing, the BOT focused on diversifying investments towards countries with strong medium and long-term economic fundamentals, as well as capitalizing on prominent global megatrends. Additionally, the BOT utilized a variety of financial instruments to enhance investment flexibility, a crucial strategy for navigating a volatile financial market amid global monetary policy transition.



Enhancing economic insights through Business Liaison Program and regional economic indicators

Thailand's economy was on the path to recovery as the COVID-19 situation eased. However, the pace of this recovery varied across different economic sectors and regions. Furthermore, the recovery faced challenges arising from both internal and external factors. These included domestic uncertainties surrounding government formation and external factors like global economic slowdown and geopolitical conflicts. Given these complexities, purely relying on statistical data might not provide a sufficient understanding of the economic situation. In addition to quantitative data, qualitative information plays a crucial role. Timely, clear, and accurate qualitative information helps the BOT gain a more complete understanding of the economic situation. This richer understanding is essential for formulating effective economic policies.



The BOT conducted field visits to northern and northeastern entrepreneurs. These facilitated information exchange and regional insights.

1 \ Monitoring economic conditions

The BOT has emphasized the importance of comprehensive and up-to-date comprehension of real-world economic and financial conditions and trends. This includes incorporating viewpoints and policy suggestions from businesses and the public. To achieve this, the BOT initiated the Business Liaison Program (BLP) in 2004, which has been ongoing for over two decades. In 2023, the BOT and its three regional offices (Northern, Northeastern, Southern) engaged in discussions with nearly 800 businesses across Thailand. These businesses represented 10-15 key economic sectors such as the food and beverage, automotive, electronics, textile and apparel, wholesale and retail, transportation, tourism, real estate and construction, as well as platform/online businesses.

Direct and candid discussion with entrepreneurs allowed the BOT to gain valuable insights into the current state of the economy. Importantly, these reflections can be used to tailor policy measures more effectively to the needs of businesses, as evidenced by the extension of financial rehabilitation and transformation loan measures from the original termination date of April 9, 2023, to April 9, 2024. This measure aimed to provide continuous assistance to debtors still affected by the COVID-19 situation and enhance liquidity for over 65,864 businesses seeking to adapt to changing economic circumstances.



“

Previously, there have been instances where policy solutions haven't fully addressed the needs of small businesses. However, the BOT's efforts to engage directly with SMEs are commendable. By gaining a deeper understanding of their needs and challenges, the BOT can develop more targeted and effective policies which provide small businesses more benefits. This approach is exactly what we need to see more of, and I strongly encourage the BOT to continue these efforts.

”

Mr. Somboon Pitayarangsarit,
Chief Executive Officer, Thai Central Mechanics Co., Ltd.

2 \ Developing regional economic indicators

The BOT has been dedicated to supporting regional development by creating new data tools and economic indicators that are in-depth and timely to benefit and support regional development. This includes the creation of the “BOT Regional Activity Tracker” or BOT RAT, which utilizes real-time information to provide insights into short-term economic trends. Additionally, the BOT

conducts studies to forecast regional economic growth over the next two years. This also covers the development of a “Well-being Index” to measure the overall well-being of people in each region. These insights are valuable for local entrepreneurs and government agencies in their business planning and economic policy formulation.



The BOT discussed with northeastern entrepreneurs related to economic topics and insights.

3 \ Promoting knowledge creation, information exchange and local development advocacy

In addition to monitoring economic conditions, regional offices also undertake in-depth analyses and studies on structural issues impacting both the Thai and regional economies. These efforts aim to enhance public knowledge and comprehension, support policy formulation among relevant stakeholders, and facilitate the implementation of the BOT's key policies.



“

Private sector trust has been enhanced by the BOT's presence in the Northeast. Regular meetings between entrepreneurs and the BOT facilitate valuable exchanges of information, suggestions, and cooperative efforts. Notably, discussions cover topics like tax benefits, which significantly benefit businessmen in the region.

”

Mr. Kemchart Somjaiwong,
Honorary Chairman of the Khon Kaen Chamber of Commerce

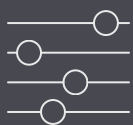
4 \ Organizing academic seminars (The BOT symposium at regional offices)

Hosting academic seminars serves as an additional channel for communicating economic and financial directives and encouraging stakeholder involvement at the regional level. Each of the three regional offices has organized seminars centered around specific topics to their own regions. In 2023, the Northern Region Office organized a seminar titled “Boosting the Northern Economy: Seizing Opportunities Amidst Challenges.” Simultaneously, the Northeastern Regional Office addressed the topic “Driving the Northeastern Agricultural Sector Toward Sustainability.” Lastly, the Southern Office examined the theme of “Empowering the Southern Economy through the Next Generation.”

In addition, each of the three regional offices organized academic seminars in 2023 in different provinces within their respective regions to improve outreach and participation through the presentation of studies pertaining to the targeted areas. These studies involved “Promoting Sustainable Economic Development in the Lower Northern Region”, “Engaging Local Voices: Inspiring Ideas for a modern Isan Economy” and “Enhancing Southern Durian Farming with Technological Innovations”.



Annual symposiums and outreach seminars by the 3 BOT regional offices.



BOX 3 | Since Thailand is not just Bangkok, the well-being of all Thai people is equally important.

Thailand is not just Bangkok, why's that?

Thailand's economic engine centers on Bangkok and the surrounding central and eastern regions, which generate three-quarters of the nation's economic activity. However, the northern, northeastern, and southern regions together account for only one-quarter. Interestingly, two-thirds of Thailand's population resides in these latter regions. Moreover, they play vital roles in some key sectors; for instance, over 80 percent of the country's agricultural workforce operates in these areas. Notably, the southern region alone attracts significant income from foreign tourists,

amounting to roughly one-third of the country's total. Given their importance, it is unsurprising that many agencies, including the BOT, have branches in these regions. To elaborate, the Southern Region Office in Songkhla Province, holding the distinction of being the first, was established in 1964 and it is now celebrating 60 years of service. While individuals might consider retirement at such an age, the BOT cannot afford to do so. Instead, we must adapt, work faster, face new challenges, and engage with more diverse groups of people, as if we were still young.

Over the past year, all three regional offices have transitioned to frontline roles, actively engaging with local communities through direct interactions at three primary levels.

1 \ Public level:

There is acknowledgment of existing gaps regarding recognition of the BOT, especially among those residing in remote areas. In response, the Northeastern Region Office collaborated with the Government Savings Bank and the Bank for Agriculture and Agricultural Cooperatives (BAAC) to conduct visits to village fund areas in Nong Bua Lamphu Province, encompassing all 717 villages. These visits aimed to empower villagers by enhancing their financial literacy, offering guidance for tackling debt issues, and raising awareness of financial fraud. Simultaneously, the Northern Region Office focused on educating village fund and urban community network leaders in 17 provinces, along with provincial treasury officials in 8 upper northern provinces. These officials were strategically positioned to offer valuable advice to local residents. The rollout of the initiative was set to expand to the lower northern region in 2024. Similarly, the Southern Region Office disseminated financial literacy through provincial treasury channels, covering all 14 provinces within its jurisdiction.

To delve into financial fraud and scams, a major concern for villagers, the most common scams involved fake online links. These links appeared to be from government agencies or banks but were actually designed to steal money from accounts. Villagers were especially vulnerable because they might be hesitant to interact with government entities. To combat this, enhanced communication efforts, tailored to local lifestyles and cultural norms were essential. This included (1) information dissemination in local dialects like U Kham Muang and Laeng Tai (2) trusted community figures as influencers to spread awareness. For example, Muslim influencers were engaged in the southern region where a significant Muslim population resided. Similarly, in the north, respected monks, such as Phra Ajahn Phop Chok from Huai Pla Kang Temple, preacher Tulung Somsak, were involved. Furthermore, manuscripts containing information about fraud were distributed to monks in various temples to warn villagers about financial fraud and scams. Finally, effective communication channels tailored to the audience which included village radio, Village and Community Public Relations Volunteers, and the increasingly popular platform, the so-called TikTok, were utilized.



The BOT offered information and posters on fraud to the respectable monk at Huai Pla Kang Temple, Chiang Rai.



The BOT provided financial literacy for the "Community Healthy Finance Project" in Songkhla.



The BOT visited village fund areas in Nong Bua Lamphu Province to raise awareness on fraud.

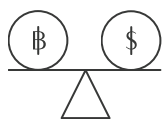
2 \ Business level:

The BOT expanded its long support for businesses beyond simply providing economic data. In 2023, two key areas were stepped up. (1) regional data: The BOT published the regional economic forecasts to help businesses plan their upcoming year, along with developing a well-being index of the local residents. (2) networking facilitation: The BOT acted as a bridge between stakeholders. For instance, the Southern Region Office organized a workshop for individuals in the durian cultivation industry to share knowledge. Following the workshop, farmers extended invitations to one another to continue discussions at durian orchards in the eastern region, indicating a desire for further learning. Additionally, academics were researching the use of drone technology to analyze plant diseases. While the widespread distribution of this technology remained a challenge, attending events like the workshop provided opportunities for knowledge exchange between researchers and farmers on the ground.

3 \ Organizational level:

The BOT has long been trusted for its neutrality. Stakeholders therefore engaged in open discussions with the BOT on diverse topics like spatial development guidelines. Recognizing that the BOT regional offices might not have the industry-specific knowledge as much as business insiders, the BOT leverages its strength in economic data and comprehensive sectoral analysis. This translates to ongoing regional-specific studies - for instance, the Northern office's exploration of economic opportunities arising from the influx of digital nomads in Chiang Mai. This is due to its third-place ranking globally as a city conducive to remote work and its sixteenth-place ranking as a destination favored by digital nomads.

In recent years, the BOT has proactively interacted with local communities, gathering valuable insights that shape both current and forthcoming projects undertaken by regional offices. This approach aims to better grasp the realities faced by the majority of the country's population, ultimately guiding the refinement and adaptation of the BOT's policies for the well-being in all regions.



Maintaining the stability of financial institution system

1 \ Supervisory policies and regulations for financial institutions and SFIs

Designed to accommodate the ever-changing domestic economic context and to encourage both the financial institutions and SFIs to have appropriate risk management and efficient operation, the revised and newly issued regulations could be summarized as follows:

1 \ Broadening the scope of commercial bank's financial business group undertakings regarding green-related businesses and venture capital

The BOT was still considering the inclusion of green-related businesses in the financial business group's scope of undertakings and the revision of supervision guideline for the financial business group's venture capital to be more relaxed and correspond to the BOT's new financial landscape. By creating a balance between innovation development and risk governance, these upcoming

policy changes also supported the business sector in the transition to the digital economy and the more environmentally friendly economy. Currently, the BOT is preparing to conduct a public hearing concerning the mentioned financial business group's scope of undertakings.

2 \ Amending the Regulations on Asset Management Company's Compliance

The BOT amended the Regulations on Asset Management Company's Compliance to facilitate the asset management company as an important mechanism for non-performing assets management in the financial institution system, which in turn provided more comprehensive and efficient debt solutions to both households and businesses. The notable revisions were the regulations regarding

(1) governance and internal control to enhance supervision and prevent potential conflicts of interest and (2) the holding of foreclosed properties so that they could be efficiently managed corresponding to the asset management company's mandate. The regulations were also revised to reduce ambiguity and unnecessary operations.

3 \ Establishing a joint-venture asset management company to deal with SFIs' non-performing assets.

The BOT expedited the measure which promoted the SFIs and asset management company to temporarily form a joint-venture asset management company to manage SFIs' non-performing assets, which were largely unsecured debtors who were in further financial distress during the COVID-19 pandemic, by carrying on financial assistance

to transferred debtors such as debt restructuring thus increasing debtors' opportunity to manage debt and a lower risk of being unable to access future funding. The joint venture had a limited timeframe of 15 years and must be set up by December 31, 2024. The measure would be in effect from February 28, 2024 onwards.

4 \ Supervisory measures for Domestic Systemically Important Banks (D-SIBs)

The BOT revised the assessment methodology and supervisory measures for D-SIBs according to the 3-year review cycle. During this review, the forthcoming change in the financial landscape, the increasing importance of digital transactions, and other critical systemic factors were considered. Some of the factors added to the former primary D-SIB indicators¹⁰ were (1) the indirect interconnectedness between banks through loans or investments with the same systemically important

corporation (SiCorp), (2) substitutability and financial institution system's infrastructure in respect of the major of SMEs' financing, in which the SMEs are the crucial part of the Thai economy, and in respect of the major financial service providers through mobile banking as a massive impact that may have caused to the general public. The new D-SIB assessment methodology will be implemented in 2024 onwards.

5 \ Regulations on Risk-weighted Asset Calculation for Derivative Counterparty Credit Risk

The BOT amended the Regulations on the Calculation of Counterparty Credit Risk-Weighted Assets for Derivative Transactions to require banks and their financial business groups to comply with the capital requirements accounting for the potential loss from credit valuation adjustment (credit valuation adjustment risk or CVA risk), an addition to the previous regulations which only required capital requirements for default risk. The amendment was made

so that banks and their financial business groups have sufficient capital to thoroughly absorb counterparty credit risk for derivative transactions, adhering to the international standard. As a result of an increasing number of derivative transactions being centrally cleared, The BOT also set out the risk weights for default risk where banks cleared their derivative transactions through central counterparties.

6 \ Regulations on Undertaking Personal Loan Business under supervision and nano finance business under supervision

The BOT amended the Regulations on Undertaking Personal Loan Business under supervision to require operators to grant title loans based on borrowers' affordability, consistent with the Regulations on Responsible Lending. Also, operators of personal loan business under supervision and nano finance business

under supervision are not allowed to collect prepayment fee if a consumer prepays loan, either partially or in full, before due date in order to enhance debt refinancing opportunity for consumers and to promote a competition among the operators, which would eventually benefit consumers.

¹⁰ The former primary D-SIB indicators were size, interconnectedness, substitutability and financial institution system's infrastructure, and complexity.

2 \ Supervision and examination of financial institutions

The BOT prioritized the enhancement of ongoing supervision aiming to monitor risk exposure to the financial institution system and be able to promptly mitigate such risks. The BOT has continuously developed new systems and tools to support supervision and encouraged the financial institutions to incorporate environmental aspects¹¹ into their businesses to ensure that they are resilient to environmental changes and ready to accommodate the transition needs of their clients. The BOT has also consistently collaborated with other supervisory agencies, e.g. supporting the working of Anti-Money Laundering Office (AMLO) and exchanging information with foreign financial regulators.

Major works on supervision and examination of financial institution in 2023 were as follows:

1 \ Examination and monitoring of financial institutions' performance and risk management

The BOT adopted an ongoing supervision approach, emphasizing on significant activities, to assess performance, capital and provision adequacy, profitability, corporate governance, compliance, risk management, and market conduct.

In 2023, the BOT paid great attention to ensuring that financial institutions appropriately assisted debtors, particularly vulnerable ones. The BOT also monitored IT and cyber risk of financial institutions, along with the readiness of their current systems and processes to accommodate the rapid growth of mobile transactions. In addition, the BOT urged financial institutions to raise the level of their financial fraud management and to efficiently comply with the Emergency Decree on Measures for the Prevention and Suppression of Technological Crime B.E. 2566 (2023)

With the robust level of capital, loan loss provision, and liquidity, the overall financial institution system remained strong and capable of serving as a key mechanism to support economic recovery and accommodate loan demands from both households and businesses going forward. The financial institutions also continued to assist debtors through debt restructuring and monitored loan quality to keep non-performing loans at a manageable level.

In 2023, the BOT completed all planned examinations of 34 financial institutions as follows:

Types of Financial Institutions	Numbers of Examined Institutions in 2023
Thai commercial banks	14
Specialized Financial Institutions (SFIs)	7
Foreign bank branches	7
Asset management companies	4
Non-banks operating credit card business and personal loan business	2
Total	34

¹¹Please refer to "Sustainable banking" on page 91 for more information

2 \ Tool development to support ongoing supervision

Amid the rising number of regulated entities with increasingly complicated services and newly emerging risks, the BOT elevated its ongoing supervision by utilizing more data and technology to increase efficiency. This would allow the BOT to continuously and vigilantly identify risk exposure and take actions. The BOT can also allocate resources more optimally, both on entity or activity bases, and be ready for new challenges.

In 2023, the following tools which supported the ongoing supervision were developed:

1. Regulatory Data Transformation on Credit Data ("Credit RDT") was a joint effort between banks and the BOT to establish a data infrastructure for a data warehouse that boasted greater detail and connectivity flexibility. Credit RDT could lead to a more precise and forward-looking supervisory approach, a wider range of data collaboration, and a broader set of more in-depth analyses. The financial institutions were expected to

start reporting under the new scheme from January 2024 onwards. The BOT would utilize the data to constantly monitor relevant risks and to set out regulations properly addressing the issues. Once all reported data were verified, the RDT data would be given back in 2024 to the financial institutions for their further uses.

2. Supervisory Tool ("SupTool") brought technology to the supervision scene to enhance its efficiency. The system's flexibility is fit for supporting the ongoing supervision as well as for interconnecting with other BOT's tools, e.g. risk monitoring tools and social listening tools. More importantly, relevant data would be centralized on one platform, allowing users to see the comprehensive picture and to conduct the cross-cutting analyses, both on entity and activity bases, which would result in the superior risk management for the financial institutions. SupTool was scheduled to launch in the first quarter of 2025.

3 \ Thai commercial banks' supervisory stress test

The BOT required Thai commercial banks to annually conduct supervisory stress tests under economic and financial scenarios for both baseline and adverse risks which were set out by the BOT. The stress testing aimed to evaluate the impacts on loan quality, market losses, loan loss provisions, and capital adequacy over the next 3 years (2023-2025), as well as the impacts on liquidity over 30 days. The tested scenarios included the

aggravating geopolitical risk, the COVID-19 pandemic, China's real estate crisis, and other risks, e.g., an interruption from a third-party IT system, personal data breach, and widespread incidents arising from venture capital firms and startups. The stress testing results suggested that Thai commercial banks were generally robust and credit functioning, capable of assisting the economic recovery while satisfying the capital requirement.

4 \ An examination of financial institutions' operations on Anti-money Laundering and Combatting the Financing of Terrorism (AML/CFT)

The BOT continuously supported the work of the AMLO for regulated financial institutions. In 2023, the BOT conducted the thematic examination on 24 financial institutions, which included 14 Thai commercial banks, 7 SFIs, and 3 foreign bank branches, with respect to

AML/CFT procedures. The results of the examination were shared with the AMLO for further use in accordance with the existing memorandum of understanding.

5 \ Collaboration between the BOT and other supervisory agencies

In 2023, the meeting of the 3-Regulator Steering Committee¹² had been arranged to collaborate on supervision in the financial sector, such as monitoring and assessing risks, jointly conducting Macro Stress Tests, and reviewing the Inter-agency Playbook for Crisis

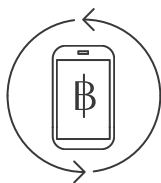
Management. In addition, the committee discussed other ongoing plans, e.g., promoting the right to data portability among service providers which were supervised by the 3 regulators and cooperating for the innovation testing in the BOT's Co-Reg Sandbox.

6 \ Collaboration between the BOT and foreign financial regulators

The BOT highly valued the exchange of information, knowledge, experience, and domestic issues with other foreign financial regulators, aiming to strengthen the Thai financial and economic system. In 2023, The BOT attended the Supervisory College meeting alongside four other financial regulators from Japan, Hong Kong, Taiwan, and Germany, to collectively enhance the supervisory approach to be efficient, up to international standards, and supportive for the interconnected and dynamic world.

In 2023, the BOT also cooperated with Otoritas Jasa Keuangan (OJK), an Indonesia's financial regulator, on the examination of Thai commercial banks' subsidiaries which are supervised by the OJK. More information was exchanged to elevate the risk monitoring capacity to be more comprehensively and readily amidst economic uncertainties.

¹² The 3-Regulator Steering Committee is a collaboration among financial regulators, namely the BOT, Securities and Exchange Commission (SEC), and Office of Insurance Commission (OIC), in both the executive and working levels. The purpose of the committee is to exchange information, discuss impending challenges, and coordinate policies as well as supervisory approaches concerning specific aspects in the financial sector, e.g., digital products and financial system stability.



Ensuring the stability of the payment system

1 \ Payment systems stability oversight

One of the missions of the BOT is to ensure a stable and secure payment system with continuous improvement, capable of supporting the economic activities of various sectors. The BOT has implemented several policies to enhance efficiency, reduce risks, and protect payment service users, while also aligning its payment system supervision with international standards. Key operational initiatives for 2023 were as follows:

1 \ Review and update the supervisory framework and regulations

The current context and situation of Thailand's payment systems have rapidly evolved due to the increasing number of players, the emergence of new business models and services, and the accelerated advancement in technology. The BOT acknowledged the necessity of revising the laws, rules, and regulations on payment system supervision to be practical and in line with these changes by applying the Regulatory Impact Assessment (RIA) approach. In 2023, the BOT revised the oversight criteria by eliminating unnecessary regulations to reduce the burden and barriers for operators. Payment system regulations would also continually be updated to align with the changing environment and situations in the future.

In 2023, the BOT issued two important regulations, namely (1) The Regulation on the qualifications and prohibited characteristics of business operators, directors, and persons with managerial power under the Payment Systems Act B.E. 2560 (2017) (Payment Systems Act), effective from July 8, 2023, to improve the governance of business operators, directors, persons with managerial power, and major shareholders to be transparent and in line with international standards; and (2) Regulation on the management of money received in advance in the event where a payment service business provider under supervision has been under a receivership ordered by the court according to Section 21 of the Payment Systems Act, and on notification of the event under Section 22, to ensure that the management of money received in advance achieves the objectives of the law in protecting payment service users.

The BOT is also in the process of updating five more regulations under the Payment Systems Act. These include: (1) Regulation on market conduct for payment service providers under supervision, for consumer protection; (2) Regulations permitting electronic money (e-Money) service businesses to undertake other businesses as generally defined without the need to request for an approval on a case-by-case basis. This allows providers to expand their businesses and develop payment services and innovations more rapidly, reducing the burden on providers and the BOT, and ensuring fairness; (3) Know your merchant (KYM) regulations to reduce the risk of using payment services for money laundering or supporting illegal activities, which may affect customers and confidence in the payment system; (4) Enhancing the oversight of payment system infrastructure to ensure good governance and risk management in accordance with international standards, and to improve efficiency and access to payment system infrastructure; and (5) Improving the process for new service provider licenses consideration and registration, and revocation of permissions (market entry and exit), to enhance the screening of potential new service providers under the Payment Systems Act.

2 \ The supervision and examination of the payment business providers

The BOT promoted the entrance of new payments business providers to improve access and increase options for payment services. In 2023, four new business providers acquired licenses, resulting in a total of 137 licensed and registered providers on December 31, 2023. This included 133 licensed business providers and 4 registered business providers, with a total of 318 licenses and 4 registration certificates.

The BOT continuously supervised and inspected the business providers who were granted licenses or registration certificates in 2023 under the Payment Systems Act including on-site inspections of important payment business providers, and risk-based offsite examinations through supervisory tools that monitor financial, operational, and compliance risks. Early warning indicators were used, and additional supervisory tools were being developed.

In addition, the BOT strengthened payment business providers by promoting a risk culture among supervised providers. This was achieved through a “building risk culture” meeting with their boards and senior executives in March 2023 to communicate governance principles. The BOT also provided training for businesses and the public on the Personal Data Protection Act (PDPA) B.E. 2562 (2019) in collaboration with the Securities and Exchange Commission (SEC), the Office of Insurance Commission (OIC), and the Office of the Personal Data Protection Commission (PDPC). The aim was to promote informed self-regulated supervision and risk management among payment businesses to enhance payment service sustainability, transparency, and trust. Businesses were also encouraged to conduct self-assessments on their awareness and monitoring of merchant risk to ensure that they can comply with the BOT regulations.



Miss Daranee Saeju, Assistant Governor, Payment Systems Policy and Financial Consumer Protection Group, made an opening speech in e-payment relations forum which is held annually to exchange views and respond to inquiries among e-payment service providers.

3 \ Establishment of payment systems governance structure

The BOT ensured that the payment system has a good governance and management structure to foster an openly accessible and competitive national payment service environment that encourages innovation and payment systems stability in accordance with the directions for development of payment systems under the new financial sector landscape of Thailand. The Payment Strategy Forum (PSF), with the participation of all relevant sectors, was established to effectively implement payment system policies and provide recommendations on the direction of payment development that would benefit end-users. In addition, the Central Payment Services Office (CPSO) was formed to systematically manage important payment services in line with international practices.

4 \ Creating public and business sector knowledge and understanding of payment services

The BOT has continuously communicated to create public understanding about payment services through various channels, including the media. It has also compiled and disseminated payment statistics, conducted public payment behavior survey (payment diary), business payment behavior survey, and published articles, such as the Bi-monthly Payment Insight on the BOT's website and social media. This is to provide the public and businesses with information to make informed service choices.

The BOT also emphasized the correct understanding of the developments and risks of new forms of transaction, such as Cryptocurrency and Stablecoin, and provide its perspective on the usage of digital assets for payment of goods and services.

5 \ Promoting data utilization for policy implementation and supervision

The BOT leveraged digital payment data to develop tools for tracking and analyzing changing payment behaviors of Thai people through the survey on public payment behavior and obstacles in using payment mediums. The survey showed increased use of digital payment among the Thai population, but cash remained prevalent in small

transactions under 300 baht. The BOT also surveyed SMEs' payment behavior, attitudes, expectations, and obstacles. Results from the analysis were used to guide payment system development under the new financial sector landscape of Thailand.

2 \ BOT's payment system and services

The BOT prioritizes the seamless and uninterrupted operation of BAHTNET (Bank of Thailand Automated High-value Transfer Network), the nation's financial infrastructure, given its central role in facilitating financial activities and safeguarding the stability of the financial system, financial institution system, and other important payment systems. Recognizing this critical importance, the BOT is committed to proactively prepare for emergency responses by conducting annual testing of contingency plan and disaster recovery plan. Furthermore, BAHTNET's participants are required to actively test Business Continuity Plans (BCPs) to ensure their readiness for any unprecedented circumstances.

As of the end of 2023, BAHTNET had a total of 58 participants, consisting of 17 Thai commercial banks, 11 foreign bank branches, 5 finance and securities companies, 6 specialized financial institutions, 10 government agencies and other institutions, and 9 BOT's internal departments.

In 2023, the total volume of funds transferred via BAHTNET was 5.2 million transactions with a total value of 982.7 trillion baht, increasing from the previous year by 6.1 percent and 6.8 percent, respectively.

3 \ Banknote management in the new world

Many countries across the world have been accelerating the growth of electronic payment to enhance overall efficiency, reduce costs of transactions, and boost financial inclusion. Despite a spectacular jump in electronic payment, cash remains the preferred method among many countries including Thailand, particularly for socially vulnerable citizens who rely extensively on cash and those who find it more convenient to pay in cash for small-value transactions.

1 \ Banknote production and management for long-term sustainability

BOT has stepped up efforts to improve efficiency of banknote management at national level with focus on the reduction of costs associated with activities in the entire banknote cycle and environmental impacts of the production and circulation of banknotes. Additionally, BOT has formulated long-term strategies to align digital payment and cash, making digital payment the predominantly preferred choice for all groups of people in transition to less-cash society while banknotes are produced in replacement of unfit ones and in response to an increasing demand, especially for small denominations 20-Baht, 50-Baht, and 100-Baht that undergo a higher circulation velocity and deteriorate faster than those in high denominations.

With respect to banknote production and management in the course of time, BOT forecasted the drivers of demand and projected how they are likely to change over the next 10 years (2023-2032). The recent payment diary survey indicated that a quantity of 1,200 – 1,800 million notes was demanded each year to accommodate the circulation of small denominations in large volumes. Therefore, BOT shifted to polymer substrate in place of paper to keep banknotes more durable in circulation and much cleaner to handle, causing the volume of new replacement banknotes to decrease and the alignment to the environmental policy at organizational level to be achieved.

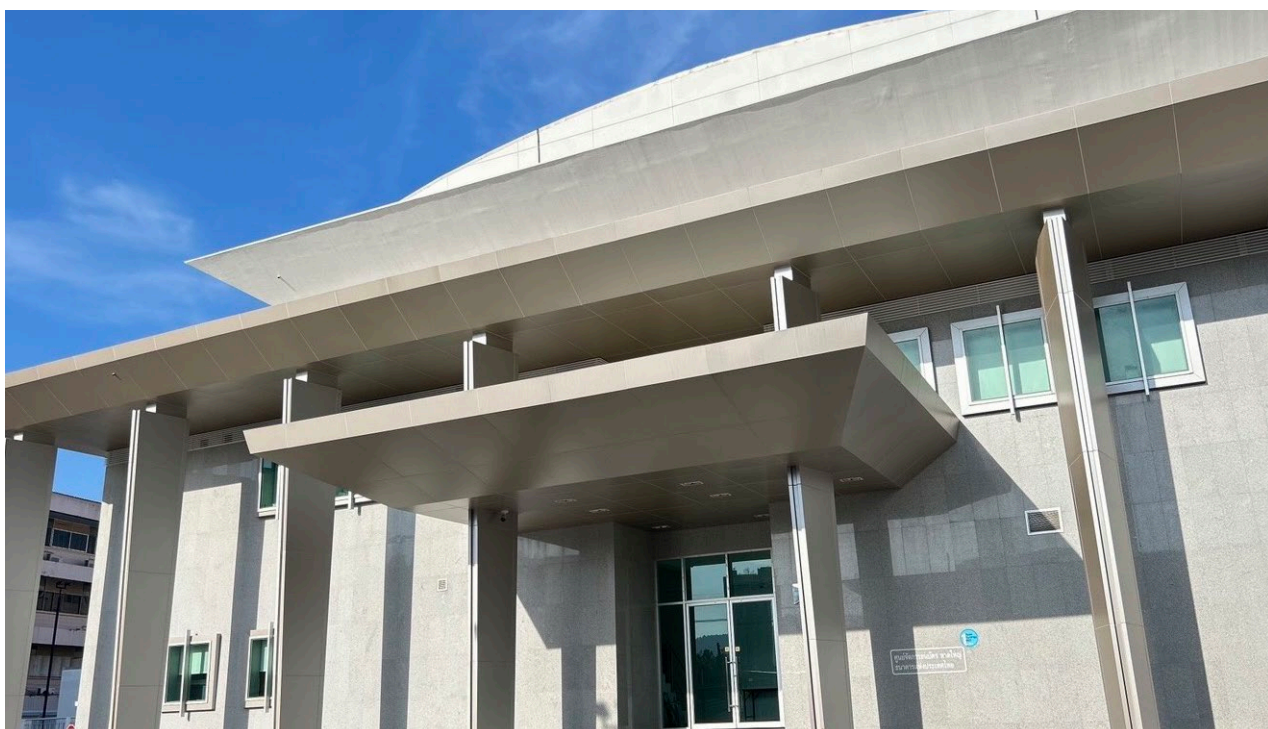
2 \ The establishment of Consolidated Cash Centers

To increase efficiency of the country's banknote cycle, the BOT has made a push for the establishment of Consolidated Cash Center (CCC) in partnership with the Thai Bankers' Association and representatives from financial institutions, enabling CCCs to operate under a sound risk management plan and in compliance with the BOT standards. CCC operators are tasked with providing upscale service for all financial institutions in a comprehensive and equal manner with reasonable service fee and flexible operational objectives to be in line with a future trend of cash use.

Following the successful setup of the country's first CCC in Khon Kaen in 2021, CCCs in Hat Yai, Rayong, Ubon Ratchathani, and Phitsanulok embarked on their operation respectively. In 2023, CCC in Surat Thani came

into operation on August 21, 2023 and CCC in Nakhon Ratchasima became operational on October 9, 2023. The operation of CCCs in 7 locations contributed toward a decrease in sorting cost by 20 percent.

Furthermore, the BOT has developed web-based systems in support of the daily operation of CCCs to be carried out in a more convenient and faster manner. The continued operation of countrywide CCCs is aimed to serve as the mechanism for overseeing end-to-end banknote management, enabling accessibility of high-quality banknotes to the general public and maintaining public confidence in Thai banknotes as the reliable means of payment, no matter how much the demand for cash changes.



Consolidated Cash Centers (CCCs) in Khon Kaen and Hat Yai which serve the operations and provide CCC services for 24 hours

4 \ Risk mitigation for payment system

1 \ Prevention of fraudulent financial activities

Financial frauds tend to continuously rise with various patterns and methods, resulting in rapid and widespread financial losses to financial service consumers. These have adverse effects on trustworthiness of the overall payment system.

The BOT has therefore cooperated with agencies from government and private sectors to formulate corrective guidelines and progressively preventive measures. In 2023, the BOT issued a policy guideline on financial frauds which covered preventive, detective, and responsive aspects. Having come into effect since March 29, 2023, the guideline is set to be the minimum standard with which financial service providers under the BOT's supervision shall comply on a level playing field. Furthermore, the BOT is prepared for reviewing or amending the guideline periodically to prevent financial frauds and resolve the problems appropriately to the circumstances.

(1) Preventive: Financial service providers shall set measures to prevent the frauds throughout the process, from the application, service activation, transaction making, to service cancellation. Examples are stopping sending links via SMS and e-mail, basic biometric identity verification when making high-valued transfer or increasing transaction limits.

(2) Detective: Financial service providers shall develop a system and procedure for progressive fraud detection. They shall also be able to monitor suspicious transactions, promptly alert customers or not to permit such transactions, and prevent the widespread losses.

(3) Responsive: Financial service providers shall stipulate guidelines to respond to, handle and assist the adversely affected customers appropriately and in a fair and timely manner. For instance, the hotline to receive inquiries about fraudulent incidents shall be available 24 hours daily. Furthermore, the service providers shall promptly communicate with customers, and report the incidents to the BOT.

The BOT monitored the compliance with the guideline and established the Financial Fraud Combat Enhancement Working Group of which objectives were (1) to stipulate and implement strategies and policies, (2) to co-operate with related external stakeholders (for example, fraud data sharing) to increase efficiency and integration in implementing fraud handling measures, and (3) to collaborate with financial sectors and other sectors to prepare the financial literacy plan for financial frauds to equip the public with the knowledge about how to use digital financial services appropriately and safely.



“

There have been calls from peculiar numbers very often. Some told me that I used to activate a credit card or that I had done illegal things. Lately, there was a letter informing that I was a guarantor of a car hire-purchase transaction. In fact, I am never a guarantor. I was fortunate that even though I cannot read and so I can learn about things only from listening, I asked a few people around me, and they said that those calls and letter were scams. So, I did not fall victim to them. I used to watch clips in YouTube that educated people about how scammers deceived people. I wish there are organizations helping the people in this regard and I am personally concerned about myself that I may become a victim one day.

”

Ms. Boonpeng, a street sweeper, Bangkok Metropolitan Administration

2 \ The prevention of illegal, unregistered and unlicensed payment services

The BOT conducted literacy activities for business providers and the public regarding the supervision and supporting payment services provided by the licensed or registered providers. The communication was done through the BOT website and social media channels. Furthermore, the BOT arranged a training course on the Payment Systems Act, for those interested in becoming

payment business providers to understand and comply with the law. The BOT will proceed legal actions against business providers who provide services to the public prior to being granted registered certificates or licenses, which are regarded as violation of the Payment Systems Act.

3 \ Risk management in BAHTNET system

(1) BAHTNET Offline (BNO)

The BOT has prepared BAHTNET Offline (BNO) as a contingency plan to handle BAHTNET operation in the event of a total disruption to the BAHTNET system, which may be caused by disastrous events such as cyberattacks. The aim is to ensure the continuity of the nation's payment system and avoid a broad impact on the financial system. In this regard, the BOT has developed the BAHTNET Lite system and operational guidelines, which have been tested with BAHTNET participants. The system will serve as an operational tool when the BOT activates BNO. The contingency plan has been ready for use since Q4/2023.

(2) Operational and credit risk management in BAHTNET system

BAHTNET system plays an important role in the financial infrastructure, highlighting the need for well-defined policies and measures to mitigate risks across all dimensions. This encompasses the imperative of regularly reviewing and enhancing the risk management framework on an annual basis. In 2023, the BOT refined and broadened the risk management processes within the BAHTNET system. These efforts were aimed at strengthening the risk management framework in alignment with international standards, including the Principle for Financial Market Infrastructures (PFMI), ISO 27001, and ISO 22301. The emphasis would be on two specific areas:

(1) Operational Risk: Amended third-party risk management to align with the BOT's IT risk management implementation guideline. This comprehensive approach covered all five aspects of the third-party risk management cycle: 1) Risk assessment, 2) Evaluation and selection of a third party, 3) Preparation of contracts or agreements, 4) Continuous monitoring of performance and risks, and 5) Cancellation of contracts or agreements.

(2) Credit Risk: Amended regulations and notifications regarding collateral for liquidity provision in the BAHTNET system. The BOT has imposed additional requirements regarding the eligibility of collateral and prohibited BAHTNET participants from placing securities of which they acted as guarantors as collateral for requesting liquidity provision from the BOT. This extended beyond the previous measure, which only restricted the use of securities issued by the participants themselves. These adjustments were made to align with the PFMI international standards and the BOT's criteria governing the acceptance of collateral in the Open Market Operations.

5 \ Enhancing the Thai financial sector's cybersecurity

Cyber threats were still the Thai financial sector's significant risk. It was found that cyberattacks were used as channels to conduct frauds and directly deceive financial customers. An example is the so-called "siphon application" which scammers use to gain distant control of mobile phones by deceiving their victims to press a link and install a malware, so as to swiftly transfer money via the victims' banking application. According to the BOT's statistics, it was found that from January 1 to December 31, 2023, there were approximately 26,000 victims, with the approximate losses of 2,100 million baht in total. The BOT raised the financial sector's readiness to handle the changing cyber frauds as follows:

- \ **(1) Policy formulation:** The BOT issued a policy guideline for financial fraud management, covering enhancing security system of mobile banking services to close the gaps which may lead to cyberattacks. Examples are to temporarily suspend the services when mobile phones were gained distant control or banking applications were counterfeited.
- \ **(2) Supervision:** The BOT stipulated a policy statement for the financial service providers under the BOT's supervision to conduct an annual self-assessment on their readiness to handle the cyber threats, and submit the result to the BOT for examination purpose. The commercial banks and the SFIs shall conduct the self-assessment according to the Cyber Resilience Assessment Framework (CRAF) which is in line with the international standard. As for the e-payment service providers, they shall conduct the self-assessment according to the framework for the minimum requirement for IT security (cyber hygiene).
- \ **(3) Cooperation:** The BOT cooperated with the related banking, financial and other national agencies to enhance the efficiency of their staff to handle with the cyber threats. Examples of co-operations are anti-cyberattack practicing at the industrial and national levels, the seminars for personnel co-organized by the banking sector and the other regulatory agencies, namely SEC and OIC, and the public communication in collaboration with the Thai Bankers' Association (TBA) to raise the public's awareness about the cyber frauds on a regular basis.



Embracing Changes and
Thrive in the Digital Era
through Innovation



Innovation for Thailand's digital financial infrastructure



Press release about the Consultation Paper on Virtual Bank Licensing Framework dated January 12, 2023



Promoting innovation and financial services through the principle of “3 Open”

The significant works undertaken in 2023 are outlined below:

1 \ Open competition for existing and new players

The BOT published the Consultation Paper on Virtual Bank Licensing Framework in January and June 2023. This will allow applicants with expertise in technology and the utilization of diverse types of data to provide financial services with new value propositions to better serve the needs of each customer segment, particularly the unserved and underserved segments of retail and SMEs customers, at a reasonable cost. It is expected that successful applicants will be announced mid-2025 and virtual banks' operations are expected to commence in mid-2026.

The BOT also encouraged the use of technology to improve convenience and security within the controlled environment of the regulatory sandbox. This particularly applied to digital customer verification, e.g., biometric technology for facial recognition and the exchange of Know Your Customer (KYC) information among banks via the National Digital Identity (NDID) platform. (Please refer to “Financial Technology” on page 86 for more information)

2 \ Open infrastructure for different types of players with fair and reasonable costs

The BOT, in collaboration with banks, the government, and businesses, actively drove the development of the Smart Financial and Payment Infrastructure for Business, known as “PromptBiz”. This initiative aims to seamlessly link trade and payment data, from invoice to billing, payment, and finally receipt. PromptBiz facilitates data transfer among financial institutions and non-banks, supporting the holistic digital payment for businesses. Since its launch on August 29, 2023, PromptBiz has been available through 5 pilot banks: Bangkok Bank, Krung Thai Bank, Bank of Ayudhya, KasikornBank, and TMBThanachart Bank.

Furthermore, progress continued on cross-border payment connectivity under the ASEAN Payment Connectivity, promoting more diverse cross-border payment services.

In the next phase, the BOT will focus on enhancing the efficiency of the country’s current infrastructure by revising the policies regarding the Systemically Important Retail Payment System (SIRPS) to enhance access for various types of new service providers while maintaining the appropriate risk management and payment system stability.

3 \ Open data

In November 2023, the BOT published the Consultation Paper on Open Banking Data for Consumer Empowerment. The document outlined a mechanism that would allow consumers to transfer their data stored at one provider to another, enabling them to enjoy better services. The BOT would consider requiring all supervised entities to have the system ready for this data transmission. Additionally, the BOT cooperated with relevant parties to establish a similar data transmission in other sectors, e.g., the SEC in the capital market, the OIC in the insurance sector, and other entities outside the financial sector. This effort aimed to enable cross-sectoral data transfer in accordance with consumer rights.

Moreover, the BOT has reached an agreement with the Digital Government Development Agency (Public Organization) and 4 utility authorities¹³. This agreement allows consumers to share their utility payment records with service providers as alternative data for behavioral and affordability analysis. The data transfer is expected to commence in 2024.

¹³ The 4 utility authorities includes the Metropolitan Electricity Authority, Provincial Electricity Authority, Metropolitan Waterworks Authority, and Provincial Waterworks Authority.



Innovation to facilitate consumers and businesses

1 \ Smart financial and payment infrastructure for business

PromptBiz is a unified payment infrastructure designed to enhance efficiency in business operations. It speeds up the process, reduces operational errors, such as from manual transaction inspections, and lowers traditional operating costs, e.g., paper costs, storage costs, and delivery fees. PromptBiz will help create a credible digital footprint for SMEs, resulting in the improved access to finance.

2 \ Cross-border payment

The BOT promoted the cross-border QR payment and real-time fund transfer linkages, aiming not only to improve convenience, speed, security, and cost effectiveness, but also to stimulate international economic activities, e.g., border trades, travel, and remittances from foreign workers. As of 2023, Thailand achieved global recognition, ranking first in terms of payment connectivity.



Scan to watch VDO Clip "Get to know Cross-border Payment" in Thai language



“

It is very convenient for both merchant and customer since the payments are processed real-time. Foreigners sometimes do not carry lots of cash, but they can simply pay on spot by scanning the QR code. This also helps boost the sales.

”

Miss Su, the owner of 'Case Story'
Greenway Market, Hat Yai District, Songkhla, Thailand

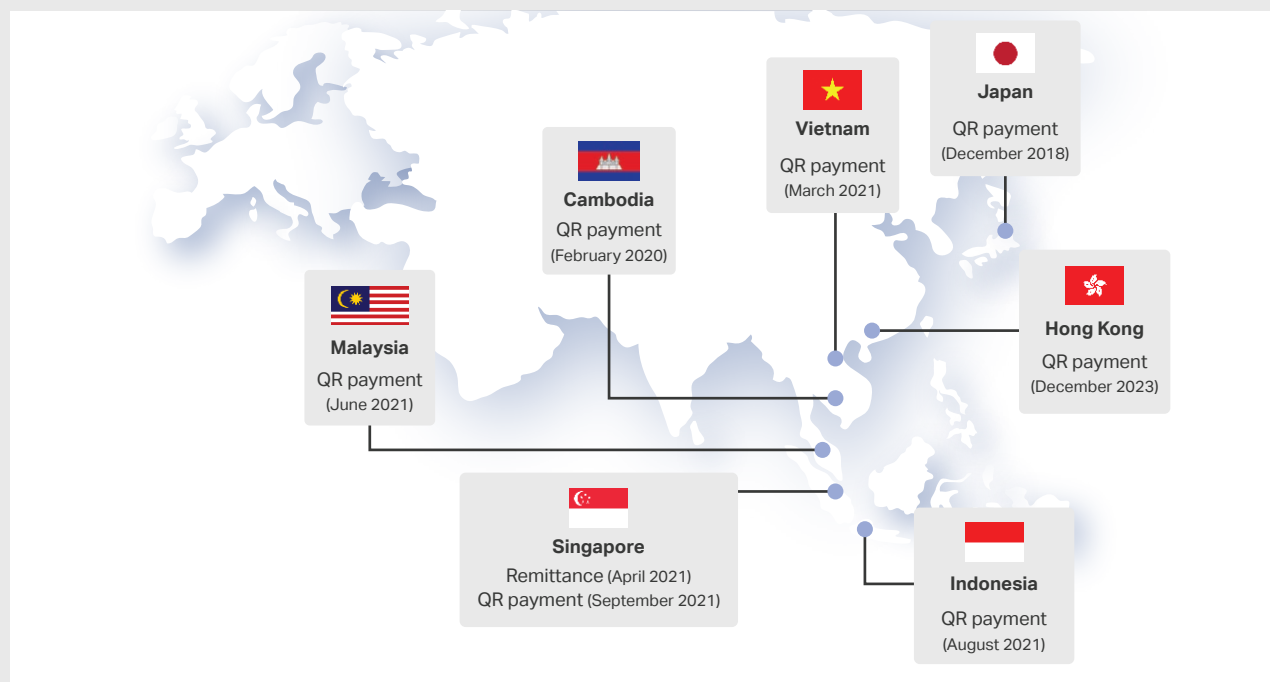


BOX 4 | Cooperation in cross-border payment

The Bank of Thailand (BOT) has been placing significant emphasis on leveraging the domestic payment systems' success through collaboration with both domestic and international government agencies and private organizations. This effort is part of the ASEAN Payment Connectivity initiative, which aims to establish payment system linkages with other countries. The goal is to offer retail customers a superior payment option that is convenient, fast, secure, and cost-effective. Additionally, these initiatives enhance cross-border trade, tourism, and remittances for foreign workers, aligning with Thailand's strategic transition toward a digital economy.

As of today, Thailand has established seven cross-border QR payment linkages (see Figure 1) with Japan, Cambodia, Singapore, Malaysia, Indonesia, Vietnam, and Hong Kong (see Figure 2), solidifying its position

as the country with the highest number of cross-border payment linkages. These linkages offer convenient, fast, and secure options for purchasing goods and services without the need to exchange physical foreign currencies. In terms of user experience, individuals can "Pay like a local" by using mobile applications to scan Thai standard QR codes and other jurisdictions' standard QR codes. These QR codes are prominently displayed by stores, allowing for real-time payment processing. Not only does this initiative enhance convenience for the people, but it also allows merchants to receive the payments real-time, facilitating tourism and economic activities between jurisdictions with the linkages. Additionally, the real-time remittance service between Thailand and Singapore (PromptPay-PayNow) stands out as the world's first cross-border fund transfer via the Fast Payment system linkage.



Summary of cross-border payment and fund transfer via the Thai QR



The launch of cross-border payment via standard QRs between Thailand and Hong Kong (December 2023)

Overall, cross-border payments have experienced a notable upward trend, reflecting users' confidence in the service. In 2023, the transaction volume for PromptPay-PayNow reached 756,000 transactions, nearly doubling the previous year's figure. The total transaction value amounted to 4,700 million baht, representing a remarkable 100 percent increase from the preceding year. Simultaneously, the cross-border QR payment witnessed substantial growth, with a transaction volume of 720,000—a nearly thirteen-fold increase compared to the previous year. The corresponding transaction value reached 600 million baht, marking a six-fold rise from the earlier year. These impressive surges can be attributed to several factors: the recovery of the tourism sector, active participation from payment service providers, collaborative efforts in promoting and enhancing services, and the launch of additional partnerships, including the QR payment service between Thailand and Hong Kong.

In addition, the BOT has been actively expanding its cross-border payment system. Currently, the BOT is in the process of establishing new linkages with Laos, India, South Korea, and China. Furthermore, the BOT is collaborating with the Bank for International Settlements (BIS) and other central banks, including Bank Indonesia, Bank Negara Malaysia, Bangko Sentral ng Pilipinas, and the Monetary Authority of Singapore, as a first mover of Project Nexus. The primary objective of this initiative is to create a cross-border payment infrastructure with multilateral model facilitating rapid and efficient scaling of linkages to various jurisdictions. The BOT believes that further expansion of cross-border payments and new linkage models will play crucial roles in shifting public's behaviors toward a digital society in the future.

3 \ Central Bank Digital Currency (CBDC)

In terms of developing Central Bank Digital Currency (CBDC), the BOT has developed and tested the cross-border payments infrastructure in order to enhance the efficiency of cross-border payments of commercial banks (wholesale CBDC) under the Multiple Central Bank Digital Currency Bridge (mBridge) project. Project mBridge's platform was built to support and enhance cross-border wholesale payments among four currencies e.g. Thai Baht, Chinese Yuan, Hong Kong Dollar, United Arab Emirates Dirham.

Moreover, the BOT has implemented the pilot-phase test of retail CBDC within a limited scope in order to explore the benefits, limitations, and opportunities of retail CBDC as an alternative payment infrastructure.



The test of retail CBDC (pilot phase) during late 2022 to October 2023



BOX 5 | The progress of Central Bank Digital Currency (CBDC)

"Project mBridge"

The success of Inthanon-LionRock Phase 2 led to subsequent third phase which has been renamed as Project mBridge upon the joining of the Digital Currency Institute of the People's Bank of China and the Central Bank of the United Arab Emirates, with support from the BIS Innovation Hub Hong Kong Center. The Project seeks to develop a multi-currency cross-border payments platform to support and enhance cross-border wholesale payments between the four participating jurisdictions, broadening the Project's geographic scope and diversity of currencies namely Thai Baht, Chinese Yuan, Hong Kong Dollar, United Arab Emirates Dirham. Currently, the Project has over 25 observing members e.g. ECB, IMF, World Bank Group.

From mBridge pilot conducted in 2022, the platform demonstrated the enhanced efficiency of cross-border transactions using multi-currency CBDC compared to the current system by shortening the

cross-border transfer times from 3-5 days to several seconds, potentially lowering the cost of cross-border transactions up to 40 percent, reducing settlement risk and supporting the use of local currencies in international payments.

In 2023, mBridge platform was developed to support cross-border payment evolving to Minimum Viable Product (MVP) stage which entailed (1) Business aspect to cover treasury management, transaction tracking, transaction automation (2) Technological aspect to be set up in decentralized manner, complying with international standards such as ISO 20022, and develop the platform to be able to support more transactions (scalability) (3) Legal aspect to formulate the operational and governance framework, rulebook and other related documents required for cross-border payments to be conducted on the platform.

Going forward, the BOT will continue testing mBridge platform in real-world environment within a limited scope (Pre-MVP) whereas mBridge will continue to expand the number of countries and currencies that will

be onboarded and tested on the mBridge platform. This will provide commercial banks and business sector with an alternative channel for cross-border payments that is efficient and comprehensive.



High-level Strategy Meeting between the BOT and the PBC in November 2023

“Retail CBDC Project”

The project aims to explore the benefits, opportunities, and limitations of Retail CBDC as an alternative payment infrastructure enabling open access for both banks and non-banks which, in turn, will level the playing field by providing more opportunities for business competition, promoting new financial innovations as well as increasing the efficiency and reducing the payment cost in the future. The project tested the core functionality of retail CBDC during late 2022 to October 2023 covering the end-to-end procedures of the BOT, financial service providers (FSPs), users and merchants in using CBDC to conduct cash-like activities, such as paying for goods and services, within limited areas and scale of approximately 10,000 retail users selected by the BOT along with three FSPs, namely the Bank of Ayudhya Public Company Limited, Siam Commercial Bank Public Company Limited,

and 2C2P (Thailand) Company Limited. In addition, the project also brought up the use cases proposed by private sector and FSP during the “CBDC Hackathon” for experimenting the technical feasibilities of CBDC features and infrastructure, in particular, programmability feature to support innovative business use cases, solve current business pain points and explore the opportunities to develop new financial innovations that can accommodate the retail users’ demand in the future.

At present, the BOT has no imminent plan to officially issue CBDC but the BOT will bring the results from the pilot phase, especially the technology design, to the new tracks for further study to enhance capability of payment system in the future.

4 \ Personal loan

In September 2020, the BOT had issued the Regulations on Digital Personal Loan to encourage the utilization of technology throughout the end-to-end service and to replace traditional proof of income with alternative data, e.g., transactions on e-commerce platforms and mobile device usage, in assessing the ability and willingness to pay. This would promote access to the proper finance for

freelancers, who were often unable to provide proof of income or offer collateral.

At the end of 2023, there were 9 licensed digital personal loan operators, 6 of which were already active.



Financial Technology (FinTech)

The BOT advocated for the convenient and secure digital banking. As trustworthy verification and authentication was identified as the key to success, 2 notable use cases were tested in the regulatory sandbox.

(1) The application of biometrics, specifically facial recognition, for electronic Know Your Customer (e-KYC) procedures became a widely used service that could be further developed into other innovative services. Over the past 6 years, 16 service providers successfully exited the sandbox. The BOT issued the guidelines on the supervision of facial recognition whose adoption was expected to rapidly grow in the future.

(2) The interbank KYC data exchange via the National Digital Identity (NDID) platform was designed to encourage the standardized and trustworthy data exchange within the financial sector and the innovation stemming from such transactions, e.g., the Digital Statement project (dStatement). In 2023, there were approximately 16 million users registering for NDID, 2 million users opening accounts via the platform, 133 members which were service providers, and 2 members which were government agencies. 6 service providers already exited the regulatory sandbox, and other service providers currently testing in the sandbox planned to complete all evaluations in 2024.

The BOT also permitted electronic system or network providers for peer-to-peer lending (P2P Lending), which acted as credit intermediaries between borrowers and lenders, to test their services in the controlled regulatory sandbox. There were 5 service providers participating up until 2023.

In the next phase, the BOT planned to promote the private sector to employ new technology for financial innovation by making participation in the sandbox more accessible and discussing with both public and private sectors alike to explore how artificial intelligence (AI) could benefit the financial sector, e.g., a fraud prevention mechanism.



Scan to watch FinTech sessions from the BOT Digital Finance Conference 2023.

Handling financial crimes arising from technology

The fraudulent activity which deceived people into transferring their money out via mobile banking posed the largest threat to the public by far. It also took various forms and used mule accounts to make tracking difficult. According to the statistics from the Royal Thai Police's online police reporting from March 1, 2022 to December 31, 2023, 140,000 accounts were affected by cybercrimes, and their loss accumulated to 14,000 million baht.

To efficiently confront this challenge, the BOT established a policy guideline for financial fraud management to declare the minimum standards that every supervised entity must comply with, as well as additional standards for transactions made via cards, deposit accounts, and e-money accounts.

The BOT, furthermore, emphasized on educating the public about financial frauds and scams through various media outlets, e.g., television, online press, online articles, and the BOT's social media platforms. The BOT collaboratively launched the "#31Days31Tips" campaign with Thailand Banking Sector Computer Emergency Response Team (TB-CERT) and Google Thailand to communicate tips and tricks about financial frauds and scams on their respective social media platforms throughout October 2023. In addition, the BOT collaborated with Electronic Transactions Development Agency (ETDA) on the "1212 ETDA Workshop: Building Immunity against Financial Frauds and Scams for Thais" project to create awareness and share preventive measures in the field for different demographics, e.g., people with disabilities, community leaders, press, and government agencies, across 20 provinces across Thailand.



Mr. Pinyo Treepetcharaporn, Director of Enterprise Risk Management Department, participating in the BOT Digital Finance Conference 2023's panel discussion about "Cybercrime and Financial Fraud: Challenges in Digital Finance"



BOX 6 | Financial fraud combat enhancement: the national cooperation to tackle and prevent financial scams

To deal with financial fraud problems effectively, it is necessary to cooperate with several sectors. The BOT has cooperated with the related government agencies; namely, Ministry of Digital Economy and Society, Royal Thai Police, Department of Special Investigation, Anti-Money Laundering Office, and Office of The National Broadcasting and Telecommunications Commission, in supporting the enactment of Emergency Decree on Measures for the Prevention and Suppression of Technological Crimes B.E. 2566 (2023), to protect the general public from being deceived by scammers to transfer funds to offenders' accounts or mule accounts. Commercial banks, SFIs and e-payment service providers may disclose or share data regarding bank accounts and transactions via the system or the procedure as specified by the Emergency Decree. Also, they shall temporarily suspend the suspected accounts for investigation. Moreover, the Emergency Decree stipulates penalties for the account owners who intendedly did not open their accounts for personal use, or allowed other people to use their accounts, or used their SIM cards to commit financial frauds.

In addition, the BOT and the mentioned agencies put efforts to support the operations according to the Emergency Decree to ensure the integrated actions against the financial frauds. Examples are:

- \ Setting Technology Crime Prevention and Suppression Committee and other sub-committees on related aspects, to specify operating directions, provide recommendations and monitor the operations on a continuous basis.

- \ Setting a data-sharing center (Central Fraud Registry: CFR) between the commercial banks and SFIs, including specifying the processes for complaint handling and sharing data regarding bank accounts and transactions which were likely to be within the scope of IT crimes as notified by financial fraud victims.

- \ Establishing Anti Online Scam Operation Center (AOC) to centralize suppression, correction, and handling proactively and comprehensively with online scams (one-stop-service) via the hotline 1441. The AOC facilitates the public as an intermediary for complaint handling and coordinating with financial service providers, police, and other related agencies.

Nevertheless, financial frauds still occur periodically, with a variety of patterns and innovations. Therefore, the continuous coordination of the related agencies is essential. Moreover, financial crime combatting and handling need to be advanced and conducted more rapidly and effectively to protect the consumers and minimize the potential losses.



The BOT in the press conference on the banking's preparation in response to measures to combat financial fraudulent activities.

Fraud warning communication mission: the heart of approaches to combat scammers

In 2023, the BOT continued to communicate fraud warnings with the public nationwide. Apart from social media which were the key channel, the BOT also proactively disseminated related information in communities. In Bangkok, it coordinated with the community leaders in 50 districts to find out the approaches to warn the residents of frauds, gave lectures to savings administrators to enable them to advice the residents appropriately, and distributed posters and other media to the Thai Retailers Association and community leaders.

The BOT also transmitted the mentioned mission to the 3 regional offices with assistance of various stakeholders. Examples are community leaders, village and urban community fund offices, provincial public relation offices, provincial chamber of commerce, provincial industrial councils, Buddhist monk preachers and village announcing towers, etc. These local stakeholders have helped the BOT communicate and disseminate fraud warning messages, rapidly share information to be examined and notify the people. They also submit information to the central administrations to formulate more targeted and satisfying policies.

Furthermore, the BOT initiated projects and activities on fraud warnings. An example is a workshop for hand sign interpreters to equip them with economic terminologies, financial literacy, and financial frauds so that they may pass on such information to the hearing-impaired persons who often fall victims of the scammers due to a lack of information and the fraudulent tricks. The BOT also encouraged creation to prevent financial frauds through brainstorming approach by organizing the BOT Communication Hackathon Contest 2023 on the topic “Let’s see through scammer’s tricks” with approximately 200 participating team contestants. Examples of their innovations are fraud warning mobile applications, fraud prevention youth ambassador training, fraud warning in form of song writing, tests, and “Mindfulness Alert” inhalants. The BOT has taken promising ideas and projects to further develop and adapt to benefit the public in practice.



An inhaler with financial fraud warning on its label, one of the product designed and initiated by the contestant.



BOT Communication Hackathon Contest 2023 on the topic “Let’s see through scammer’s tricks”



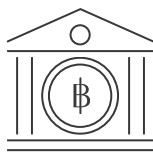
The BOT first organized the training & workshop program on Economics, Finance and financial frauds literacy for the sign language interpreters in order to correctly communicate to the hearing-disabled people.



Scan to watch BOT Communication Hackathon Contest 2023

Considering Sustainable Development





Sustainable banking

The BOT encourages the financial sector to incorporate environment aspects into their business operations and take an important role to support the business sector to transition towards environmental sustainability. It is necessary to consider timing and speed of transition that suits the Thai context, ensuring that it is “not too slow” to avoid irreversible impacts, but also “not too fast” to allow the economy to adjust without leaving anyone behind. The majority of Thailand’s industrial sector is still in the “brown” category, meaning it relies heavily on coal and oil, and uses traditional technology that is not environmentally friendly. Additionally, SMEs, which are the backbone of the Thai economy, are still recovering from the COVID-19 crisis, hence having less awareness and being significantly less prepared than larger businesses.

In 2023, the BOT focused on establishing mechanisms and standards to facilitate financial institutions to integrate environmental factors into their business operations in an end-to-end manner. Furthermore, The BOT encourage financial institutions to offer financial products and services in terms of financing for business sector to tangibly transit to the environmental sustainability, starting from the pilot industries. Key initiatives included:

1 \ Issuing the policy statement on internalizing environmental and climate change aspects into financial institution business

The BOT has published a Policy Statement on Internalizing Environmental and Climate Change Aspects into Financial Institution Business (standard practice) in February 2023 which financial institutions shall use as a framework for assessing environmental opportunities and risks and integrate them as part of their business operations or developing appropriate and concrete environment-related financial products and services. This includes 4 key principles: (1) governance, (2) strategy, (3) risk management, and (4) data disclosure.

Additionally, the BOT has supported the Thai Bankers’ Association to develop an industry handbook to detail the practices at the operational level and the collection of international standards and best practices, as well as the priority actions that should be implemented in the short- and long-terms. The Thai Bankers’ Association has already published the handbook in November 2023. This would help financial institutions have clear and uniform standards and be able to operate according to the policy effectively. Going forward, the BOT will require financial institutions to conduct a self-assessment exercise of their operations against the standard practice and industry handbook, and will continuously monitor the operations of financial institutions.

2 \ Publishing the reference tool for economic activities according to environmental objectives (Thailand Taxonomy) Phase¹⁴

The BOT has released the first phase of the Thailand Taxonomy in June 2023, which is a standard for classifying economic activities that take into account the environmental objectives, specifically for the energy and transportation sectors, the top two contributors of greenhouse gas emissions in the country. The standard provides a common reference for categorizing

environmentally friendly economic activities and serves as a guideline for the development of financial products and services. In the next phase, the BOT, in collaboration with relevant agencies, will develop the Thailand Taxonomy phase 2, which will cover the industrial manufacturing, agriculture, construction and real estate, and waste management.

3 \ Financial products and services that support the business sector's transition

In 2023, the BOT supported a pilot project of commercial banks to provide funding to help reduce PM2.5 dust in the sugarcane and sugar industry. Special interest loans totaling over 4,000 million baht were provided to operators in the industry for the purchase of agricultural machinery that would lead to reduced sugarcane burning. The loan repayment conditions were set to align with the revenue cycle from sugarcane production, and the special interest rate conditions depended on the success in reducing the proportion of burnt sugarcane purchases to total sugarcane purchases, which must be lower than the national or regional average. In addition, SFIs also supported special interest rate revolving credits to sugarcane farmers who reduced their sugarcane burning compared to the previous year.

emissions. In addition, the BOT plans to support financial institutions in starting to develop a transition plan towards environmental sustainability in terms of greenhouse gas management from the operations of financial institutions. This will help financial institutions to plan and formulate strategies that support their customers' transition in a timely manner. Each domestic systemically important banks (D-SIBs) and other voluntary non-DSIBs are expected to start developing their transition plans for at least one priority sector.

Moving forward, the BOT will further push financial institutions to offer financing products for transition to environmental sustainability to customer groups that each financial institution can help create significant and tangible changes, such as in terms of the number of customers that financial institutions can help to transition, creating new financial innovations that stimulate competition, or the opportunity to scale further. Furthermore, the BOT will coordinate with relevant public and private agencies to lay the foundations that will help the business sector's transition. Examples are incentives that will help stimulate or support the transition and developing data platform that facilitates the calculation and reporting of greenhouse gas

¹⁴ In collaboration with the Thailand Taxonomy Working Group, comprising The SEC, Office of Natural Resources and Environmental Policy and Planning (ONEP), Ministry of Energy, Office of Transport and Traffic Policy and Planning (OTP), Federation of Thai Industries (FTI), Thai Chamber of Commerce and Board of Trade of Thailand, Thailand Greenhouse Gas Management Organization (Public Organization) (TGO), The Thai Bankers' Association (TBA), Association of International Bank (Thailand) (AIB), and Government Financial Institutions Association (GFA)

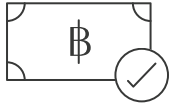
4 \ Capacity building on green finance for personnel in the financial sector and in the BOT

The BOT and the TBA supported a training program on the industry handbook for executives and practitioners of commercial banks. Sustainable finance was also incorporated as one of the key topics in the internal curriculum for the BOT examiners. In 2024, the BOT will

focus on developing knowledge that supplement future plans, including finance that supports the business sector's transition to environmental sustainability, and climate scenario analysis and stress testing.



Mr. Ronadol Numnonda, Deputy Governor Financial Institutions Stability, addressed in the conference "Thailand Taxonomy - A Reference Tool for Sustainable Economy" on supporting financial institutions to offer financial products and services that lead Thailand to the green economy in the future.



Financial consumer protection

The BOT placed a high value on financial consumer protection and believed that customers must be able to access financial products and services that were suitable for their needs at a reasonable price and that they must have enough information to make well-informed decisions. Conversely, the service providers were strongly encouraged to recognize and prioritize the attentive and responsible treatment of customers by emphasizing on the “4-non” principles: non-fraudulent, non-coercive, non-intrusive, and non-exploitative, which would promote the appropriate and fair financial services, build public trust in Thailand’s financial system, and contribute to the long-term sustainability of businesses.

1 \ Vigorous supervision and encouragement for service providers to continuously enhance their services

1 \ Elevate financial consumer protection regulations to be more uniform and comprehensive

The BOT issued the regulations on responsible lending to set out the service providers’ roles and responsibilities during all stages of indebtedness. To truly enhance the efficiency of the supervision and promote a fair competition, the Regulations on the Imposition of Default Interest and Debt Payment Hierarchy were amended to include all of the BOT’s supervised entities in the scope of application, ensuring the standardized implementation across service providers. The latter regulations were also reviewed for further clarity and flexibility accounting for various characteristics of the businesses.

Furthermore, the principles of behavioral economics were examined and incorporated into the design of the financial consumer protection policies. In 2023, the BOT, British Embassy, and Behavioral Insights Team (BIT) worked together on a nudge project to conduct an experiment and design the choice architecture for communicating acknowledgement of interest and debt repayments, based on the behavioral economics approach. The project’s summary would be published in early 2024.

2 \ Prepare for the legislative enactment and supervision of car and motorcycle hire purchase and leasing businesses

In anticipation of the enforcement of the draft Royal Decree on Car and Motorcycle Hire Purchase and Leasing Business to Be Subject to Financial Institution Business Act B.E. 2551 B.E. ..., the BOT was preparing to issue the related regulations and was in the process of formulating the appropriate supervisory approach. As the policies aimed to ensure fair treatment of customers and maintain economic and financial stability; the new regulations,

covering both the operational and consumer protection aspects of the businesses, went through a series of consultations with stakeholders to gather information on how hire purchase and leasing businesses operated, e.g., focus group discussions with the existing service providers and reports from Thai Hire Purchase Association.

3 \ Develop new tools and utilize various data sources to monitor and evaluate service providers

The BOT developed new tools and methods for utilizing various data sources to enhance analysis, monitoring, and evaluation of service providers' compliance with the financial consumer protection regulations. The new tools assisted the BOT in detecting customers' problems and complaints in a more comprehensive manner, hence increasing the efficiency of proactive supervision, and aiding in the revision of regulations to ensure even better

and fairer financial services. Examples of the new tools and the use of diverse data sources included (1) social media listening tool utilizing technology to identify, track, and assess issues found in social media conversations, (2) analysis of complaint data reported by the service providers themselves as well as the complaint and whistleblowing data reported to the BOT from the public via online and offline channels, and (3) mystery shopping.

4 \ Conduct the ongoing supervision and issue orders for prompt rectification of mistakes

The BOT carried out the ongoing supervision and issued orders to address several significant issues: (1) noncompliant collections of consumer loan fees affecting 3.3 million accounts and worth 1,500 million baht, leading to the orders for service providers to redress the customers and revise process compliance; (2) improper disclosure of customer data impacting approximately 100,000 customers, resulting in the requests for an immediate halt in the disclosure, communication with the customers, and correction to the controls on data privacy; (3) impractical or coercive offering of insurance products to customers, necessitating revisions to the compensation structure, sales process, and quality control to avoid further mis-selling; (4) revolving personal loan condition requiring customers to disburse the loan immediately after approval, leading to the orders to amend this particular condition; and (5) some service providers allocating repayment to installments other than the longest overdue portion and imposing default interest of more than a 3 percent increment plus the contractual interest, a violation of the regulations, leading to the orders for system and process compliance overhaul and customer compensation for the excess collection of the default interest.

Issues such as receipt of falsified documentary evidence, involuntary consent for marketing purposes embedded in the service conditions, unnecessary conditions in retail products, and limitation on rights, e.g., forcing customers to give up their right to complain, could still be found. In response, the BOT ordered the service providers to deliver clear and complete documentary evidence to customers, amend any condition clauses that deprived customers of their rights, and emphasize on the process compliance, especially when customers were adversely affected.

Moreover, the BOT urged the service providers to identify their own shortcomings, determine the underlying causes, and effectively rectify the problems (self-detect and self-correct) to sustainably ensure fair treatment of customers.

2 \ Emphasis on protection, targeted problem solving, and timely assistance

1 \ Consultation and complaint handling

In cases of issues arising from the use of financial services or in cases of financial frauds and scams, customers could seek advice or lodge a complaint with the BOT via the call center (1213), email (contact@bot.or.th), or in-person visit at the offices. The BOT would coordinate with service

providers to resolve each case within the statutory roles and specified timeframe (Service Level Agreement: SLA). In 2023, the BOT handled approximately 5,951 complaint cases, 85 percent of which were related to financial services, and gave advice to 10,235 customers in total.

2 \ Assistance and counselling on debt resolution

The BOT offered assistance and consultation on debt resolution through 2 projects, i.e., “Debt Exit Fastlane” and “Doctor Debt”. In 2023, the “Debt Exit Fastlane” program, which connected creditors and debtors, successfully resolved 30,724 requests; meanwhile, the “Doctor Debt” program provided tailored advice on indebtedness to 2,364 debtors.

Furthermore, the BOT collaborated with the Ministry of Finance, Ministry of Education, and other organizations to deliver debt counselling services at the Financial Fair for Thai Teachers “Unlock a Better Life”, which was held 6 times across the country, and at the Money Expo, which took place in Bangkok, Udon Thani, and Hat Yai.



“

Before the Doctor Debt program, SMEs often found appointments with financial institutions daunting due to the uncertainties about the nature of the discussions and lack of knowledge. Sometimes, they even faced with lawsuits. The Doctor Debt program empowers SMEs with knowledge. Now, when they encounter financial difficulties, they simply negotiate, which has greatly reduced the consequences from poor credit score in Northern Thailand, as evidenced by the statistics.

”

Mr. Boonchu Kamutmanot, President,
The Federation of Northern Thai SME



The BOT's booth at regional Money Expo Fair 2022 held at Chiangmai, Udon Thani and Songkhla (Hat Yai).

3 \ Knowledge sharing and personnel development for debt mediation and counselling infrastructure

The BOT developed the curriculum and instructional materials to enhance public access to the accurate and comprehensive debt counselling services. In partnership with the Ministry of Justice's Rights and Liberties Protection Department and Institute for Education and Development for Conflict Management by Peaceful Means Foundation (I.D.P), the BOT initiated training in debt mediation for citizen mediators and made it a prerequisite

for their renewal. The training would also be adapted to an online leaning format and was expected to be published on the Ministry of Justice's website during the first quarter of 2024. Furthermore, the BOT conducted the training for the staff of the "Teacher's Debt Relief Station" project, which aimed to bring debt counselling services to educational personnel.



Financial literacy promotion

The BOT further executed financial literacy promotion to advocate the Thai people's sustainable financial well-being and to equip them with resilience to handle unexpected financial shocks. The key operations in 2023 were raising financial immunity which was expected to lead to appropriate financial behavior of youths and working adults, cooperating with strategic partners, and continuous promoting financial literacy via traditional and online media.

1 \ Encouraging appropriate financial behavior

1 \ Students



The Training to develop financial literacy for teachers registered in Kru Satang Project and their applied teaching to students in the classroom.

The BOT has been working with various educational strategic partners to include financial literacy in the Compulsory Basic Education Core Curriculum through the following projects:

(1) The Financial Literacy Competencies Framework¹⁵ Design and Development Project for the Thai citizens of all age groups. The framework will be used as the core of the financial literacy framework for the Thai educational system to be in line and comparable with the international standard. The BOT is in the process of developing this framework and will deliver it to curriculum developers and teachers. They then apply the framework to specify personal qualities and attributes, capabilities, and desirable

financial behaviors of each age group. It shall also be used as a guideline to stipulate learning objectives of the subject, content, and evaluation criteria which are suitable for students. In the meantime, the Ministry of Finance is in the process of developing the standard of the competency framework to be in line with all target groups and plans to disseminate it to the public by 2024, which is an operation according to the Financial Literacy Action Plan.

In addition, the BOT cooperated with Faculty of Education, Lampang Rajabhat University and Chiang Mai Rajabhat University on "Kru Satang Project". The draft competency framework was tested by applying to

¹⁵ The Financial Competencies Literacy Framework is one of the initiatives according to the Financial Literacy Action Plan B.E. 2565-2570 (the Financial Literacy Action Plan B.E. 2565-2570: the second goal - The Thai citizens have adequate financial knowledge and skill to apply appropriately to live financially sustainable lives, the third measure - specify Financial Competencies Framework for the Thai citizens). It is compiled with reference to the OECD Core Competencies Framework (OECD stands for The Organization for Economic Cooperation and Development) and Core Competencies Frameworks of the EU, the UK, and Hong Kong, to be applied with the Thai economic context. The competencies framework comprises 4 keys topics: namely Money and Transaction, Planning & Managing Finance, Risk & Reward, and Financial Landscape.

organize activities and teaching, as well as to develop teaching media. All these will be utilized as a prototype for teaching financial literacy of each educational level in the future.

(2) The Financial Literacy Curriculum for Teaching in Educational Institutions Project aiming to include financial literacy in the teaching for students permanently, and allow teachers to adapt financial literacy into practice. The BOT collaborated with the following educational institutions to develop financial literacy curriculum as an individual subject or as integrating parts of related subjects: (1) Thammasat Secondary School, designing and developing an individual subject named “Savvy Finance” for the grade 11 students. Teachers have chosen the active learning approach to deliver financial knowledge to the students since 2021, and (2) The Institute for the Promotion of Teaching Science and Technology (IPST) and Panyapiwat Institute of Management Demonstration School, integrating financial literacy content into related subjects and further developing basic financial knowledge in various subjects, such as Mathematics, Social Studies, and vocational education. The mentioned content and approaches are in the process of testing by network schools.

In addition, the BOT has organized an activity to promote financial literacy in order to raise financial immunity and develop financial knowledge and skill for the vocational students nationwide. This has been conducted according to the concept “Seeding, Developing Role Models to the sustainable network” in form of financial literacy

project and innovation contest under the Fin. Dee We Can Do!!! project, which has been held annually for 5 years. In 2023, it was transformed from a contest organized by the BOT to be part of the vocational and fundamental skills national competition organized by the Association of Future Thai Professional under the endorsement of the Office of Vocational Education Commission on the topic of financial knowledge, with 160 participating vocational colleges.

(3) Teacher Training Project to develop “Teacher Mainstay” to convey financial knowledge in educational institutions. The BOT initiated a project to develop teacher mainstays to further expand the scope and establish the sustainability of financial literacy in the educational institutions. The first project was “Teacherism”, in collaboration with Faculty of Learning Sciences and Education, Thammasat University to organize an activity-based teaching of financial literacy named “Know First, Act Faster, Get Richer” as one of modules in the “subject market”, where teachers can choose to learn about elective subjects in which they are interested, to raise financial awareness of teachers in the Teacherism Network, and then lead to adapting financial knowledge in their teaching. The project was launched in 2022. Another project was “Fin. Forward”, providing training sessions which were extended and adapted the approaches from “Savvy Finance” to develop teacher mainstays for teachers from various educational institutions, being piloted in 3 provinces: namely Bangkok, Songkhla and Surat Thani, with participating teachers from approximately 40 schools.

2 \ Working adults

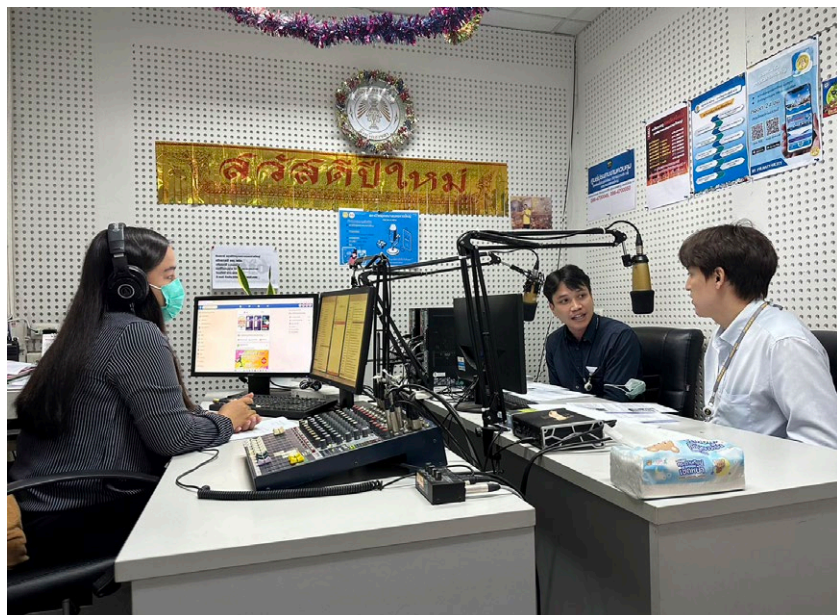
The BOT put efforts to adjust personal financial behavior via Fin. Dee Happy Life!!! project which provided representatives from government agencies and private companies with training sessions to become financial mentors or so-called “Fin. Trainers”. In 2023, the project engaged 64 organizations and successfully trained 217 Fin. trainers who disseminated financial literacy contents to their colleagues in a total of 146,716 employees, and

there were 7,960 employees participating in the intensive version of the project which included behavior monitoring process. The organizations may use the BOT’s financial literacy toolkits as the media to promote financial literacy in the workplace. Furthermore, working adults also had access to check their own financial health by completing the financial health questionnaire available on the BOT website.

2 \ Promoting financial literacy via traditional and online media on a regular basis

The BOT's representatives gave interviews to radio and television stations to disseminate financial knowledge. Furthermore, clips for financial literacy promotions were created and publicized via social media, such as Facebook and TikTok. All these were to equip the Thai people with various knowledge related to personal finance. Examples

are the methods used by scammers so that they can protect themselves from financial frauds and learn about how to resolve their financial fraud problems appropriately, the rights and responsibilities of financial consumers, as well financial planning and debt management.



The BOT gave interviews to regional media; for instance, a television program “The North this Morning” on NBT channel, and the Hat Yai City Municipality’s radio station FM. 96.0 MHz. to disseminate financial knowledge and scam warnings.

2 \ Cooperations with strategic partners

The BOT's regional offices were also speakers on topics such as financial frauds and fair practice for financial consumers at government agencies, private organizations, and strategic partners; for example, The Stock Exchange

of Thailand, Thai Investors Association, Thai Credit Guarantee Corporation (TCG), and provincial offices of Comptroller General's Department to promote financial knowledge among the public and local media.



The BOT gave financial literacy on frauds and scams to governmental sectors, and jointly discussed with community leaders in Bangkok in order to exchange useful information for scam warnings.



Operation for organizational environmental sustainability

The BOT valued its involvement in reducing activities that directly or indirectly affect climate conditions. It also promoted sustainability by raising environmental awareness and through its operations in four key areas: (1) Internal operations, (2) Banknote production and management, (3) Official reserve management, and (4) Building environmental awareness.

1 \ Internal operations

1 \ Increasing energy efficiency

The BOT emphasized the efficient and effective use of valuable resources. It has implemented energy and environmental management measures that covered the use of electricity, fuel oil, waste, paper, and tap water. The implementation of these plans and measures were monitored and evaluated. The BOT prioritized electricity usage due to its high proportion of energy consumption¹⁶. Significant actions included: (1) Replacing split type air conditioning system, (2) Improving the workplace lighting control system, (3) Replacing high-efficiency water pump's motor, (4) Changing the pump control device for plant watering to an automatic type (variable speed drive), and (5) Changing conventional combustion engine vehicles to hybrid cars.

2 \ Promotion of clean energy consumption

In 2023, the BOT headquarter utilized a clean energy source from a 280-kilowatt solar cell system. This system replaced approximately 395,000 kilowatt-hours of electricity per year. The solar cell system contributed to 3 percent of the total energy consumption. The solar cell systems installed at the Northern and Northeastern Regional Offices had capacities of 50 and 20 kilowatts, respectively. They replaced approximately 73,000 and 40,800 kilowatt-hours of electricity per year. The solar cell systems accounted for 6 percent and 4 percent of the total energy consumption at each regional office, respectively.

3 \ Circular resource management

In 2023, the BOT emphasized a circular approach to resource management under the "3R - Reduce Reuse Recycle" principle to reduce waste from operations and various activities. For waste reduction or "Reduce", it aimed to reduce non-degradable or environmentally harmful waste, such as single-use plastic. This was achieved by encouraging employees to use personal cups in daily life, along with cooperation from participating shops offering discounts for customers who brought personal cups for their drinks. For "Reuse", the BOT promoted proper waste separation from the source for reuse, and also for "Recycle", or disposed of appropriately to help reduce the amount of landfill waste, which was another major source of greenhouse gases. Moreover, the reuse of leftover

items was encouraged through upcycling activities such as plastic recycling & DIY workshops, sharing items with the underprivileged, campaigning to reuse scrap materials for decoration in various events, and inviting all departments to participate in the "Recyclable Waste Bank Project" by sorting waste and selling it for income.

In addition, for comprehensive waste management within the organization, the BOT installed a food waste disposal machine this year to process leftover food into bio-soil in accordance with the circular economy concept. This bio-soil was used to nurture flora gardens within the BOT premises, thereby also reducing the cost of garden maintenance.

¹⁶ Electricity usage accounted for 95 percent of total energy consumption.

2 \ Sustainable banknote production and management

The BOT paid attention to sustainable banknote production and management processes that are certified according to international standards. These include quality management system¹⁷, occupational health and safety management system¹⁸, business continuity management system¹⁹, and the opening of two additional CCCs, namely the Surat Thani CCC and the Nakhon Ratchasima CCC, to improve the efficiency of cash delivery services and maximize the use of shared resources.

As for environmentally friendly operations, the BOT has received environmental management system certification²⁰, level 3 green industry certification (green system), and has continuously developed banknote production and management systems. Therefore, the banknote production and management processes are assuredly in line with international standards and consider the environment impact.

In 2023, the BOT upgraded and improved the efficiency of the banknote production process to be environmentally friendly in three main areas: promoting the use of clean energy, increasing energy efficiency, and choosing environmentally friendly materials.

1 \ Promotion of clean energy usage

In 2023, the BOT used clean energy from a 1,000-kilowatt solar cell system in the production and management of banknotes, which replaced approximately 1,204,000 kilowatt-hours of electricity per year. The solar cell system accounted for 10 percent of total energy consumption. Furthermore, the BOT has plans for 2024 to expand the use of solar cell system to five additional CCCs in Khon Kaen, Nakhon Ratchasima, Ubon Ratchathani, Phitsanulok, and Rayong provinces.

2 \ Increasing energy efficiency

The BOT continuously upgrades machines and equipment to increase operational efficiency and reduce energy consumption. As a result, in 2023, the BOT was able to reduce total energy consumption by 1,260,000 kilowatt-hours, accounting for 10 percent of total energy consumption. Past activities included improving high-efficiency cooling systems, upgrading lighting systems to LED types, and installing Variable Speed Drive (VSD) equipment for water pumps and cooling system fans.

3 \ Choosing environmentally friendly raw materials

The BOT attached importance to extending the lifespan of banknotes by issuing 20-baht polymer banknotes, which have a lifespan of at least 2.75 times longer than that of paper banknotes. It is committed to continuously developing longer-lasting banknotes in other denominations and selecting more environmentally friendly raw materials

¹⁷ ISO 9001:2015

¹⁸ ISO 45001:2018

¹⁹ ISO 22301:2019

²⁰ ISO 14001:2015

3 \ Official reserve management under ESG principles

The BOT recognized the importance and necessity of considering sustainability in official reserve management. Environmental, Social, and Governance (ESG) factors were applied under the main objectives of reserve management, namely preserving value, maintaining sufficient liquidity, and achieving risk-adjusted returns. The official reserve management approach that considered sustainability would help to achieve the goal of preserving the long-term value of reserves more efficiently, and also help to create positive impacts or reduce negative impacts on society and the environment. The inclusion of sustainability factors into investment consideration came from two main reasons:

(1) ESG risk factors for investment would affect the financial and economic risks, asset pricing, and risk-adjusted returns of reserve management. In particular, the impact of climate risk on investment works through two main channels, namely (1) direct physical damages to the economy (physical risk), such as drought, landslides, and (2) policy changes aimed at transitioning to a low-carbon economy (transition risk).

(2) Building momentum for a global transition toward sustainability would have a positive impact on the global economy, the Thai economy, and long-term investment. The BOT recognized its role in being an important driving force through creating ESG awareness among market participants.

In the past, the BOT has continuously analyzed and studied ESG-related actions in reserve management mainly under the official reserve management framework. This emphasized a cautious, careful, and gradual approach which included investments in certain types of green bonds that passed the BOT's liquidity and creditworthiness criteria. In 2023, the BOT has taken actions through the investment process directly and indirectly as follows:

(1) Incorporating ESG Factors into the Strategic Asset Allocation (SAA) process in a clear and systematic manner through a framework of qualitative and quantitative analysis. This included (1) a general application of various widely accepted ESG indicators in qualitative analysis to reflect and monitor investment risks in each country and asset class, and (2) an overall risk assessment of investment funds through the use of a climate scenario test based on data from the Network for Greening the Financial System (NGFS) that are used by most central banks and represent a global standard. The results of the assessment will subsequently be used to analyze the BOT's investment allocation to achieve the long-term objectives of reserve management.

(2) Creating ESG awareness among market participants by reflecting the approach and stance on sustainability consideration in official reserve management to counterparties and external fund managers through (1) considering ESG factors in the counterparties and external fund managers selection and evaluation process, and (2) setting a proxy voting principle for equity investment, including requiring fund managers to report voting results to the BOT annually.

(3) Preparation for the upgrading of official reserve management standards to align with the long-term investment direction toward sustainability. This included (1) studying the structure and development, as well as the overall risk of impact investments in debt and equity markets, to enhance knowledge and understanding, and assess the impact on official reserve management efficiency, and (2) preparing to compile an ESG Internal Report to inform the status of ESG risks to official reserves in accordance with international standards, as well as being a driving force for global transition to sustainability for financial market participants overall.

4 \ Building environmental awareness (green mindset)

The BOT continued to raise awareness of environmental conservation and encouraged employees to contribute toward the efficient use of energy and resources, making the BOT a role model in promoting sustainability through various activities such as (1) the annual BOT Go Green event, (2) Green Talk event, which disseminated academic knowledge through a panel discussion among scholars and environmental activists exchanging views on environmental topics, (3) knowledge training and campaigns for changes in plastic use behavior, (4) the Green Market event which provided a marketplace for eco-friendly products, and promoted sustainability of their sources and production supply chains, and (5) other activities such as waste separation in exchange for plants, and the BOT Green Kids Camp to instill environmental values in employees' children.

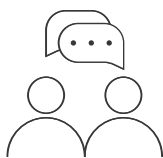


Mrs. Vireka Suntapuntu, Assistant Governor, Corporate Services Group, joined the BOT Go Green Talk, one of the annual BOT Go Green activities, on "Sustainable Ways for Waste Management".



Building the Public Trust in the BOT





Expanding communication to raise the Thai people's awareness

The BOT has pursued the proactive communication strategy to enable the public to understand and be confident in policy implementation which will help enhance the effectiveness of the policies to have impacts as expected. The public's comments play vital roles in planning the effective proactive communication strategy. The BOT also uses social media listening to gain feedback. Then, issues and views from the people are analyzed to design contents and select the right channels for each target group. Furthermore, an additional public listening and engagement channel for the new generation of the Thai people was The BOT Communication Hackathon Contest 2023 on the topic "Let's see through scammer's tricks". The BOT has taken promising ideas and projects to further develop in form of activities, online lessons, mobile applications, and other tools that aim to help improve scam warnings among the Thai people.



The BOT Communication Hackathon Contest 2023 on the topic "Let's see through scammer's tricks" with more than 200 participating team contestants.



In addition, the BOT, in 2023, launched another communication channel through TikTok, an online platform which gained enormous popularity from the new generations. The BOT policies and other work including scam warnings were explained and presented in form of short and understandable clips so that it can reach out consumers more widely. Moreover, the BOT established the community of communicators to help amplify the BOT policies; for instance, the launch of Financial Creator Bootcamp to get to know financial influencers, and to promote accesses to the BOT's data and information which can be applied to create interesting content. Another example was a training program for savings administrators, community officers and leaders under The Bangkok Metropolitan Administration to advise the residents in each community on financial scams and debt management.

In the meantime, traditional media were still a powerful channel to publicize the BOT messages via

interviews, news, articles, and special scoops throughout the year to enable the Thai citizens to understand the BOT work; especially to effectively convey the knowledge about financial scams to the public to raise awareness of the BOT and related agencies' policy implementation and to warn them of the scams, which was recently one of BOT's vital issues of communication.

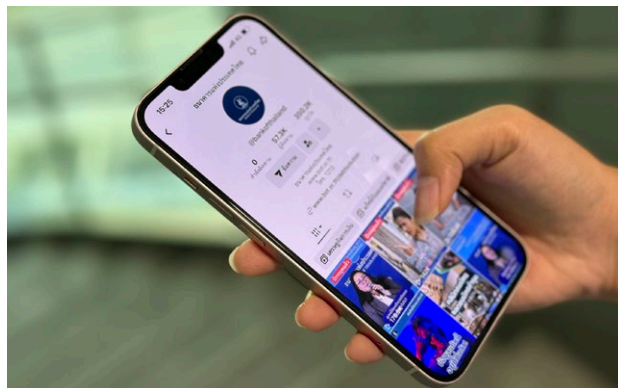
The Bank of Thailand Learning Center (BOTLC) is regarded as another BOT's channel of public communication. BOTLC resumed its full service comprising 3 main services; namely library, museums, and edutainment activities. Examples are "Debt Solving is Attainable with the Right Financial Planning" workshop offering personal debt counselling sessions, "BOT Econ Class" activity in form of an out-of-class Economic lecture for university students on Monetary Policy, "Board Game Fin Fest" event where personal finance knowledge was transformed to fun board games, and regular online contents posted on the BOTLC's Facebook and YouTube.



A lecture on Monetary Policy given to university students attending BOT Econ Class activity at the BOTLC by Miss Chayawadee Chai-anant, Assistant Governor of Corporate Relations Group



Board Game Fin Fest event using board games as tools to learn about personal finance.



TikTok @bankofthailand, new communication channel of the BOT



The Bank of Thailand's international cooperation

Guided by international strategy, the BOT played an active role in advancing international financial cooperation to safeguard economic and financial stability in Thailand which helped strengthen the BOT's recognition at the international level. The BOT's works related to international issues focused on maintaining the country's ability to deploy multiple complementary tools suitable for Thailand's circumstances while developing additional tools for businesses to better manage exchange rate risk. It also emphasized sustainable development, especially the country's digital transformation through cross-border payment linkages.

1 \ The BOT's Participation in international organizations and international fora

The BOT actively participated in global policy discussions. The BOT high-level executives participated and shared insights in various high-profile events, including the Jackson Hole Economic Symposium 2023 and BOAO Forum for Asia 2023 Annual Conference. The BOT also became a member of the Bank for International Settlements' Central Bank Governance Group (CBGG)²¹ and Working Groups under the Committee on Payments and Market Infrastructures (CPMI)²².

In addition, the BOT continued to push forward the concept of an Integrated Policy Framework (IPF) through both the International Monetary Fund (IMF) and the Bank for International Settlements (BIS). The BOT and Bank Indonesia (BI) co-hosted BI-BOT High-Level Policy Dialogue on "Frameworks for Integrated Policy: Experiences and the Way Forward". The event offered an avenue for policymakers, practitioners, and International Organizations to take stock, discuss, and exchange experiences to identify lessons and remaining gaps in policy frameworks guiding the use of multiple tools to safeguard macro-financial stability.

²¹ Central Bank Governance Group (CBGG) serves as a venue for the exchange of views among Governors on matters of central bank governance and organizational arrangements to enhance policy and operation effectiveness. In 2023, CBGG members included Governors of South African Reserve Bank, Bank of England, European Central Bank, Central Bank of Norway, Central Bank of Brazil, Bank of Mexico, and Bank of Thailand (BOT). In 2023, the BOT Governor was invited to join as CBGG member to share views, knowledge, and experiences related to central bank governance.

²² The Committee on Payments and Market Infrastructures (CPMI), currently comprised of senior officials of 28 member central banks, is an international standard setter that promotes the safety and efficiency of payment and related arrangements. The work of CPMI is undertaken through Working Groups, such as the Working Group on Community of Practice, which monitors and exchanges experiences on new or upgraded payment systems, and the Working Group on Governance and Oversight, which works on Fast Payment System (FPS) interlinking governance and oversight considerations. In 2023, the BOT participated in both Working Groups.

2 \ Regional financial cooperation

1 \ Sustainable financing in ASEAN

The BOT, as a member of the ASEAN Senior Level Committee (SLC) on Financial Integration, continued to put emphasis on sustainable financing through the SLC Task Force on Sustainable Finance. The priority works included ASEAN Taxonomy for Finance of which version 2²³ was released in March 2023 and the development of the ASEAN Green Map which would serve as a common blueprint for ASEAN member states in advancing financial ecosystem towards sustainable finance.

2 \ Payment connectivity

The BOT, as the co-chair of the Working Committee on Payment and Settlements System (WC-PSS), continued to push forward regional payment connectivity at both bilateral and multilateral levels. In 2023, the State Bank of Viet Nam officially joined the Regional Payment Connectivity (RPC) initiative that was pioneered by the central banks of Indonesia, Malaysia, Philippines, Singapore, and Thailand in 2022 to enhance collaboration on payment connectivity through the development of faster, cheaper, more transparent, and more inclusive cross-border payments. The inclusion of Vietnam brings the RPC group to a total of six ASEAN central banks.



Mr. Ronadol Numnonda, Deputy Governor of Financial Institutions Stability, represented the BOT to witness the signing of the Memorandum of Understanding on Cooperation in Regional Payment Connectivity (RPC) to include State Bank of Viet Nam on August 25, 2023, Jakarta, Indonesia. This brings the RPC group to a total of six countries, namely, Thailand, Indonesia, Malaysia, Philippines, Singapore and Vietnam.

²³ ASEAN Taxonomy Version 1 which was released in 2021 provided two criteria for the assessment of economic activities. These criteria include (1) Fundamental Framework - initial assessment with essential criteria and the sector-agnostic decision tree that is applicable to countries with insufficient data set and (2) Plus Standard - assessment with more details using a traffic light system to classify activities. Version 2 provided the completed Foundation Framework, offering detailed methodologies for assessing various economic activities and Technical Screening Criteria for the first focus sector, i.e., Electricity, Gas, Steam and Air Conditioning Supply Sector under the Plus Standard, as well as the inclusion of coal phase-out criteria.

3 \ Free Trade Agreement: FTA

The BOT, in collaboration with other Thai financial regulators²⁴, participated in the negotiations of Comprehensive Economic Partnership Agreement (CEPA) between Thailand and United Arab Emirates related to financial services and electronic commerce. Both parties concluded the negotiations on those issues in September 2023 while continuing the negotiations on the remaining issues on market access.

Furthermore, the BOT was participating in the FTA negotiations with other trading partners such as the Sri Lanka-Thailand Free Trade Agreement (SLTFTA) in the areas of financial services and other financial-related issues, of which both parties successfully concluded the agreement in December 2023. The BOT was still taking part in the negotiations with the European Free Trade Association (EFTA)²⁵ and ASEAN-Canada Free Trade Agreement (ACAFTA). Both FTA negotiations are expected to be concluded in 2024 and 2025, respectively.

4 \ Promotion of local currency usage

The BOT, in collaboration with central banks in the region, continued to promote the use of local currency for cross-border trade and investment transactions so that business operators would have an alternative to manage their exchange rate risks more efficiently.

1 \ Enhancement of the local currency settlement framework between Malaysian Ringgit-Thai baht and Indonesian rupiah-Thai baht

The BOT, Bank Negara Malaysia (BNM) and BI concluded three bilateral Memorandum of Understanding (MoUs) to Promote Bilateral Transactions in Local Currencies between the countries in August 2023. These MOUs supersede MoUs on local currency settlement framework signed between the three central banks in August 2015 and December 2016. The new MoUs expand the scope

of the framework to include more eligible cross-border transactions beyond trade and direct investment which aims to strengthen cross-border economic activities, enhance regional financial market stability, and deepen local currency markets in the three countries. The enhancement will come into effect in 2024.

²⁴ consists of the Fiscal Policy Office (FPO), the SEC, and the OIC

²⁵ consists of Iceland, Liechtenstein, Norway, and Switzerland

2 \ Bilateral Swap Arrangement

The BOT entered into the two-way Bilateral Swap Arrangement (BSA) with BNM in February 2023 to (1) provide financial support in addressing short-term USD liquidity shortages and Balance of Payments difficulties (2) and to promote the use of local currencies in trade and direct investment settlement between Thailand and

Malaysia, in an amount up to 3 billion US dollar. In addition to providing financial support during crisis time, the BSA aims to facilitate trade and investment and enhance business confidence in using local currency for cross-border transactions between the two countries.



On February 4, 2023, Ms. Nor Shamsiah Mohd Yunus, former Governor of the BNM, and Mr. Sethaput Suthiwartnarueput, Governor of the BOT signed the Bilateral Swap Agreement (BSA) to foster business confidence and promote the use of local currency settlements for the growing trade and investment transactions between Malaysia and Thailand.







Knowledge creation and academic networking

The BOT emphasizes the importance of continuously building knowledge and academic networks to support policy implementation based on high-quality data and analysis. In 2023, the Puey Ungphakorn Institute for Economic Research (PIER) and various departments within the BOT collaborated with external academic partner networks to undertake the following activities:

1 \ Knowledge creation and dissemination

In 2023, the BOT disseminated more than 100 research articles authored by both internal researchers and those within its academic network. These works were distributed through various channels, including PIER Discussion Papers (comprising full research papers), aBRIDGEd (medium-length articles tailored for policymakers and general audiences), the PIER Blog (featuring short posts), and brief op-ed articles showcased in mainstream medias.

Moreover, PIER organized several research media briefs as platforms for researchers to disseminate their findings to general public. These briefs covered research projects on, for example the impacts and implications to the design of sustainable agricultural debt relief programs, the impacts and implications to the design of early childhood development interventions and climate change mitigation and adaptation finance.

Furthermore, to bolster high-quality research and generate economic insights for BOT's policymaking and operations, PIER awarded eight research grants in 2023. Examples of funded research projects this year include (1) assessing income distribution among Thai workers, (2) predicting inflation using online media texts, (3) examining the productivity impact of employing ChatGPT through economic experiments, and (4) investigating digital inequality and access to public welfare among vulnerable elderly groups.

2 \ Organizing national-level academic platforms

PIER organized an annual BOT Symposium under the theme “People: The Economics of Well-Being,” in both on-site and live online formats. The symposium showcased rigorous research works on the quality of life and well-being of individuals in Thailand with the objective to shed some lights on the design of appropriate human capital development policies from childhood to old age. The symposium program was also designed and presented in an engaging manner to ensure of inclusive accessible to wider general public audiences.

In addition, PIER also hosted PIER Research Workshop each year to foster high quality research among Thai academia. This workshop also served as a platform for rigorous academic exchange and the establishment of academic networks. PIER Research Workshop last

year featured 9 high-quality research papers and was well attended by over 63 researchers from universities, government agencies, the private sector and the BOT.

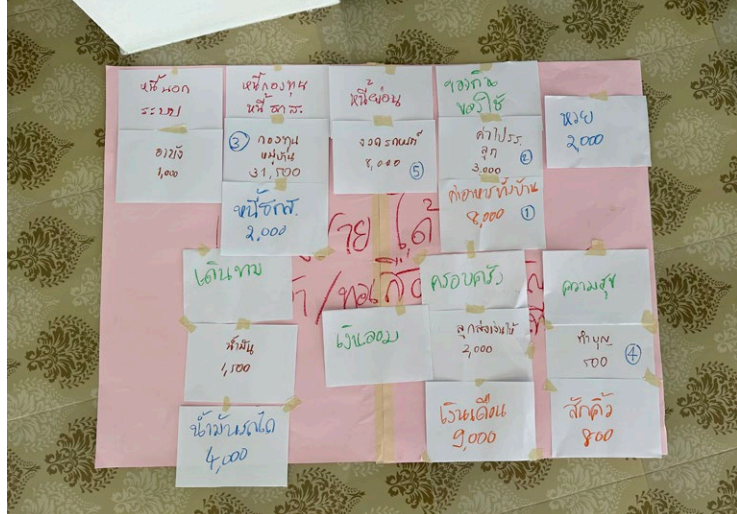
Moreover, in 2023, PIER organized a series of 12 PIER Research Seminars and PIER Economic Exchanges, providing a forum for researchers, both local and international, to showcase their findings and exchange research ideas. PIER also helped organizing the Macro-Finance Research Workshop Seminar 2023, which brought together researchers from macroeconomics and financial sectors. The seminar covered topics such as the connection between Thai and global capital markets, the relationship between billionaire wealth and economic growth, and the impact of political uncertainty and exchange rate fluctuations on Thai companies.



The Seminar in The BOT Symposium 2023, held under the theme “People: The Economics of Well-Being”



Scan to watch The BOT Symposium 2023
(in Thai)



The Sustainable Agricultural Debt Relief Programs, a joint project between the BAAC, the BOT (PIER as an intermediary), and academic researchers, conducting field trips in many countries to collect the root causes of the agricultural debt.

3 \ Networking and connection to policymakers

Since its establishment in 2015, PIER has continuously broadened its academic networks, gathering over 335 researchers from diverse public and private institutions to engage in groundbreaking research discussions and presentations in economics and finance. PIER also remains committed to expanding its global reach through collaborations with esteemed economists from prestigious institutions such as Harvard, MIT, and J-PAL Southeast Asia.

Additionally, PIER has been selected as one of the 11 research institutes worldwide to participate in the Harvard Center for International Development's Global Internship Program. Through this program, three Harvard students interned at PIER in an eight-week period, working on several research projects. In 2023, PIER also welcomed interns from Columbia University and the University of Chicago, nurturing interest in Thailand's research problems among international scholars.

Moreover, PIER has played a pivotal role in generating data and landscape of knowledge as well as in advocating sustainable solution to agricultural debt through a long-term collaborative project with the Bank

for Agriculture and Agricultural Cooperatives (BAAC), the BOT, and academic researchers. This collaborative research project aims to develop and test evidence-based policy recommendation for sustainable agricultural debt solutions that include (1) constructing and use of inclusive farmer data, (2) measures to unlock and incentivize farmers to repay existing debt, (3) measures to promote sustainable agricultural lending (4) measures to enhance financial literacy among farmers, and (5) measures to combine income and productivity interventions to debt interventions.

A notable achievement under this initiative was the establishment of a comprehensive and inclusive farmer data in collaboration with 14 government agencies. This initiative linked crucial databases of farm households nationwide to accurately assess the debt status and economic potential, laying a solid foundation for effective policy design and targeting as well as for sustainable agricultural lending. The research work from the project also has provided implications for the design of agricultural debt relief program for the government as well as for raising public awareness and evidence-based discussion.

Strengthening Internal Excellence





Human resource management and organization development

1 \ Organization and personnel were adaptive and stayed informed of changes

1 \ Human resource management and organization development

The BOT prepared for constant changes and uncertainties by implementing a people strategy, which included recruitment, personnel development, performance management, reorganization and manpower planning, changes in human resource management, engagement improvement, positive work environment, and attention to both physical and mental health.

2 \ Personnel recruitment and development suitable for the ongoing context and future-ready

The BOT adopted an active recruitment strategy to recruit potential applicants who would like to be an important force in the country's sustainable growth by focusing on future work directions, which were technology, innovation, and digital processes. To engage with college faculty and students, the BOT organized and participated in various activities, such as BOT open house, networking events with Thai students abroad, job fairs, and campus visits. During these events, representatives from each department group collectively guided attendees through the BOT's roles and responsibilities, provided detailed job descriptions, and shared their views and experiences of working at the BOT.

To appeal to the new generation, the BOT advertised its recruitment opportunities via the "BOT Career" Facebook page and LinkedIn. The BOT additionally offered internship programs for college students to learn from hands-on experience, preparing them for future work.

Aside from recruiting new staff, the BOT was also committed to the development of its current personnel, ensuring they acquired the necessary skills for future work. The targeted skills included:

(1) Leadership cultivation for future leaders to guide the organization towards achieving its mission, e.g., IT for non-IT Executives course and Executive Development Program;

(2) Requisite skills for future workforce, particularly digital and data skills, as well as specific area of expertise, e.g., School for Examiners;

(3) Accelerating the learning curves of "Talent" staff and selected successor through Individual Development Program (IDP);

(4) Onboarding Program for new staff and managers and other courses, e.g., a course on Regulatory Impact Assessment (RIA), crash course on skill improvement, and course on giving feedback for managers to motivate employees and create their development plans.

3 \ Revamping the Performance Management System (PMS) to foster staff self-improvement and maximize potential

To enhance performance at both the staff and organizational levels, which was driven by a culture of learning, self-development, and working style that fully leveraged the staff's potential to achieve the goals, the BOT revised its Performance Management System to (1) align SMART (Specific, Measurable, Achievable, Relevant, and Time-bound) goals with the organization's goal through a joint plan with manager to establish mutual expectations and identify the capabilities required to achieve them; (2) monitor and evaluate performance based on evidence to promote self-improvement strategies designed in collaboration with managers; and (3) provide earnest and constant feedback to identify areas for improvement and eventually enhance staff's capabilities. The new PMS will be implemented in 2024 onwards.

4 \ Reorganization and staffing plan to support future work

The BOT's organizational structure was reorganized to prepare for the forthcoming tasks, with an emphasis on synergies among departments involving in similar fields. The reorganizations, which took effect in 2023, were as follows:

(1) In terms of financial institution stability, efforts in financial consumer protection and financial literacy were centralized to ensure holistic protection: creating financial immunity, supervising service providers, and handling complaints. The role of Financial System Supervision Development Department was also adjusted to develop the tools, personnel, and processes for forward-looking supervision.

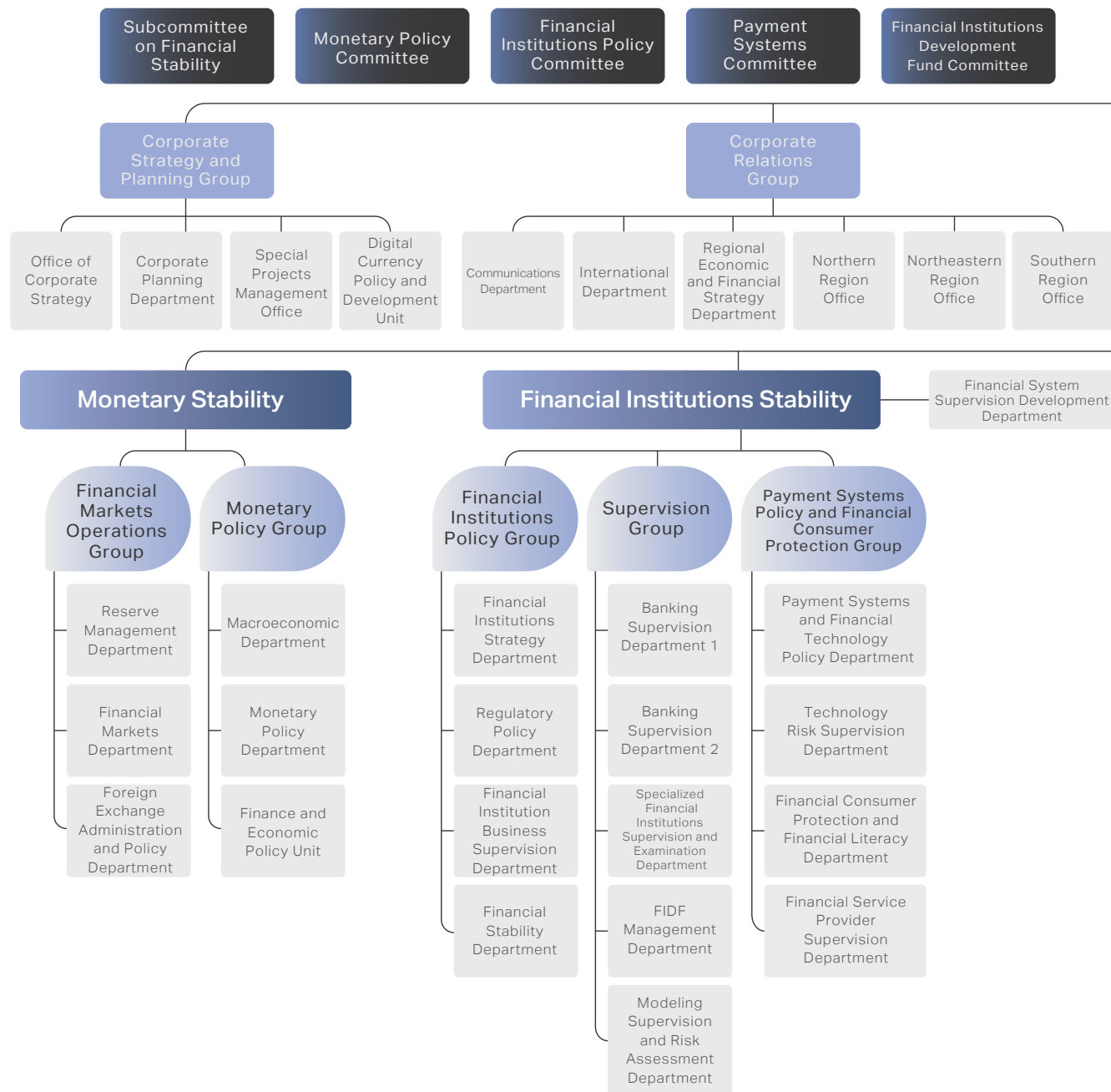
(2) Corporate relations and the BOT Learning Center's strategy were combined to elevate the BOT Learning Center's efficiency in responding to stakeholder engagement strategies.

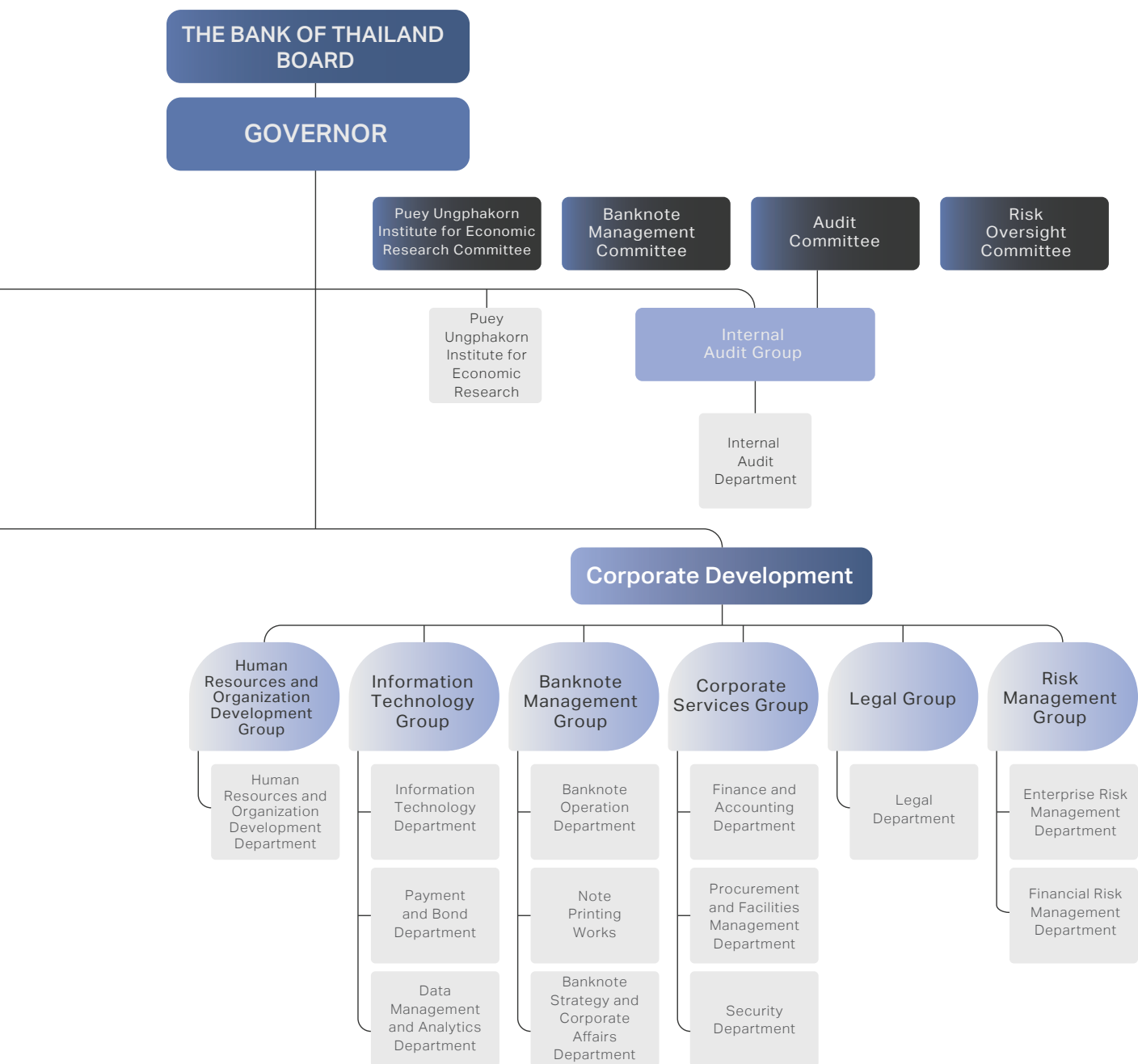
(3) Procurement and facility management were integrated to manage redundancy in operations and to standardize workflows.

Additionally, the BOT was in the process of reorganizing other departments to better support the organization's mission. These changes were expected to be completed within 2024.



BANK OF THAILAND ORGANIZATION CHART





as of December 31, 2023

— LINE OF COMMAND

Given the future work and context, the BOT adopted strategic staffing to ensure enough employees with necessary skills, both quantitatively and qualitatively. This was achieved through the design of new working processes and the appropriate plans for staff allocation, e.g., allocating additional staff for significant assignments, continuously recruiting new staff, offering scholarships

in fields that would address future challenges, and developing staff to reskill and upskill. All these initiatives were already piloted in Foreign Exchange Administration and Policy Department and Financial Consumer Protection and Financial Service Provider Supervision Department and were set to be implemented organization-wide in 2024.



Mrs. Roong Mallikamas, Deputy Governor, Corporate Development, led the reorganization to align with the new context.

5 \ Adjustment to the human resource management system to increase flexibility

In 2023, the BOT developed the Oracle Human Capital Management (Oracle HCM) system to support the complete cycle of the human resource management. Since the new system, set to be ready in January 2024, centralized the databases and the human resource management system,

connecting all data points on a single platform, the integration would not only make it more convenient for end users but also assist managers and Human Resource Department in management and policy design to improve employee oversight.

6 \ Employee engagement, positive work environment, and attention to physical and mental health

The BOT prioritized staff's physical and mental health to ensure that they were able to work at their best and feel motivated; thus, one of the activities held was the leadership and culture session for newly promoted managers, where executives would exchange their experiences and inspire the new generation.

Joint Consultation Committee (JCC) visited the regional offices and Banknote Management Group to increase employee engagement and receive feedback from

colleagues regarding the work environment and well-being. To promote further engagement, Change Champions in each department were communicated to build positive work environment, particularly opened communication session for staffs to share their views.

Moreover, the BOT consistently communicated staff's news on activities and policies, for example, concerning performance evaluation, and the roles of managers via selected media channels for each topic.



Data Governance

The BOT has full awareness of the vital importance of data management in compliance with data governance principles, and also protection of data subjects' rights constantly. In 2023, the BOT reviewed and revised the policy, and guideline of data governance, and personal data protection consistent to contemporary working context.

In addition, the BOT amended certain data-related requirements, as well as enhanced staff's awareness regarding significance of data management accurately and securely. It also strengthened the standard of personal data supervision by studying and developing the so-called tool "Data Protection Impact Assessment" (DPIA) aimed at elevating management of data breach risks associated with high risk personal data processing activities. Overall measures and safeguards were in place to ensure that any data the BOT collected were properly utilized and managed throughout the data lifecycle. This was also to ensure that there was no data breach incidents, and more importantly maintain public trust as well as confidence on the BOT of all data providers.



กรอบการดำเนินงานนโยบายการเงิน
ของธนาคารแห่งประเทศไทย
MONETARY POLICY FRAMEWORK

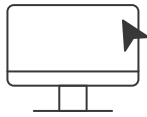
เครื่องมือในการดำเนินนโยบายการเงิน
MONETARY POLICY INSTRUMENTS

CORE
VALUE

ธนาคารแห่งประเทศไทย
BANK OF THAILAND

PRINCIPLES FOR
FINANCIAL INSTITUTIONS

แนวทางและเป้าหมายการพัฒนา
ระบบสถาบันการเงิน
PRINCIPLES FOR
FINANCIAL INSTITUTIONS DEVELOPMENT



Information technology management and data management

The BOT promptly adapted its mindset and working model to align with the new era by increasing the use of technology and data to boost efficiency, which would play an important role in achieving the BOT's mission. Additionally, the BOT enhanced the stability and security of technology infrastructure to tackle new challenges in the next 3-5 years and emphasize energy-saving measures to support ESG.

1 \ Use technology and data to unlock our potential to become the digital organization according to the BOT Technology Strategy and Roadmap

In 2023, the BOT Technology Strategy and Roadmap (2024-2026) was created to establish guidelines for the utilization of technology and data to enhance the BOT's mindset and working style. The roadmap focused on encouraging staff to incorporate state-of-the-art data, tools, and technology into their tasks and enabled the BOT to become a digital central bank that adopts technology in a cost-effective, efficient, and secure manner to achieve its mission with an acceptable level of risk.

The roadmap will be executed through 3 key aspects, which were (1) modern technology and data that were stable, secure, energy-efficient, and adaptable to business challenges; (2) strengthen the process and governance to be more rigorous and transparent to ensure utilization of applications, data and technologies that are streamlined, valuable, and standardized, and supported by all stakeholders; and (3) staff development that focused on building the necessary skills to use tools and data to increase work efficiency and ultimately accomplish the organization's goal.

2 \ Reinforce our potential with standardized platforms that were accessible, secured, and ready to face new challenges

The BOT recognized the importance of public communication using digital channels to reach a broader range of audience. The BOT website was developed on a new platform and went live in August 2023. Moreover, the BOT was preparing to launch a new service management platform, which would be a new point of contact for inquiries, requests, and complaints to the BOT. The platform, which complied with international standards, would improve the services by allowing citizens to check the status of their complaints or requests 24/7.

The BOT has been moving to new standardized platforms for BOT's core missions and other internal tasks in various areas, such as Governance Risk Compliance platform (GRC) for supervisions, HR platform for human resources management, and Enterprise Resource Planning platform (ERP). Furthermore, the BOT is exploring the use of Generative AI to boost our potential.

3 \ Strengthen IT system stability and security comparable to other leading organizations

The BOT expanded its IT infrastructure and reinforced system security across all dimensions to ensure that the BOT's IT services remained uninterrupted and could efficiently handle increasing usage.

In 2023, the BOT focused on expanding data storage to support the new data format which would be utilized in the BOT's supervision, analysis, and policy development to enhance accuracy and resiliency in the modern financial world. The BOT also expanded the storage and efficiency of the critical data backup system

to guarantee availability even in crisis and to continually reinforce security for users, staff, and involved parties.

An evaluation from independent agencies showed that the BOT had outstanding cybersecurity management, equivalent to the top central banks in Asia Pacific. Despite our outstanding rating, the BOT planned to elevate its cybersecurity management by adopting the Zero Trust Architecture together with an action plan based on the BOT's risk appetite in the next phase.

4 \ Develop the BOT's strategic plan for information.

The BOT utilizes both domain knowledge and data as a fundamental basis for assessing the financial and economic conditions and formulating appropriate policies to maintain the financial stability and promote economic well-being. Given the volatile nature of the economy and financial markets, along with accelerated digital innovation, BOT's data management must be adaptive and ready to face emerging challenges and constant changes.

In 2023, BOT developed a 3-year Data Strategy (2024-2026) to promote data-centric culture where data are effectively used to formulate and implement policies and well managed by sound data security practices and good data governance. The data strategy emphasizes the following points:

(1) Effective data utilization: leveraging modern data technologies to improve data management and usage efficiency, along with developing employee skills to use new tools effectively.

(2) Cost-effective data acquisition: ensuring sufficient data to support BOT's today and future work while balancing the benefits of acquired data and the reporting burden to data providers.

(3) Data governance review: ongoing review of BOT's data governance framework to maintain alignment with international standards and business practices.

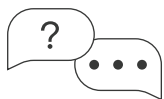
5 \ Regulatory Data Transformation (RDT)

The BOT has been implementing the Regulatory Data Transformation for credit data (RDT credit) since 2022. Financial institutions began submitting their first RDT credit data between July 2023 and October 2023. The initial data reporting focused on alignment and interpretation of RDT data with the business operations of each financial institution as well as data quality assurance by cross-checking consistency with existing BOT data. In addition, efforts were also placed on the RDT data product design of how to best utilize RDT credit data for both internal and external usage.

As part of this effort, the BOT organized a series of data giveback workshops with financial institutions to

explore processing methods and formats for data that would be reported back to financial institutions. This allowed financial institutions to use the data for business purposes. Additionally, BOT was actively seeking ways to share RDT credit data with other supervisory agencies and considering expanding the dimensions of publicly disclosed information to benefit a wider audience.

By the end of 2023, the RDT credit project began its second phase to expand the coverage to business entities within financial institutions' business group, including those involved in credit-like businesses in Thailand. The reporting was scheduled to commence in the middle of 2025.



Regulatory Impact Assessment (RIA)

The BOT continued to apply the RIA principles intensively and continuously under the “Think holistically, Response practically” campaign. This would ensure thorough analysis and evaluations of the importance and impacts of each policy, guideline, and operation prior to its implementation; reducing the burden on relevant stakeholders. In 2023, the BOT took the following actions:

1 \ Review and revise regulations to accommodate the future financial landscape.

The BOT approved the principle to expand the scope of business of the commercial banks’ financial business group. The expanded scope included environmental-related (green-related) business and more flexible scope of the venture capital business activities, to support business sector adjustment in line with the sustainable development goals under the financial landscape of the BOT. The landscape focused on creating a balance between promoting innovation and supervising risk management to support the transition towards digital economy and environmentally friendly economy under the context suitable for Thailand. The regulations would be announced and enforced in 2024.

2 \ Review and revise the regulations to reduce the burden on stakeholders.

The BOT had relaxed the regulations to support ease of doing business for non-resident (NR). For example, the steps and documents required for NR transactions investing in Thai securities had been reduced. The qualifications of applicants for the Non-resident Qualified Company (NRQC) scheme had also been extended to include payment services.

In addition, the BOT had reduced, eliminated, and revised unnecessarily strict, redundant, or unclear regulations and guidelines to enhance operational efficiency. This included improving questions and answers related to (1) the review of credit transactions of foreign commercial bank branches and subsidiaries of foreign commercial banks, in cases where cost or personnel constraints prevent the separation of review units; (2) the calculation of credit risk-weighted assets, allowing more flexibility for subsequent mortgages of housing loans with the same effectiveness as first mortgage; (3) the classification and provision of reserves, making the classification more flexible for business debtors with multiple accounts at a particular financial institution, each account with related cash inflows; and (4) reduction of reporting burden on commercial banks by, for example, allowing them to opt for submitting an internal liquidity gap report instead of the standard liquidity gap specified by the BOT.

3 ** **Evaluate the enforcement outcomes of the laws under the BOT's responsibility.

The BOT has a duty according to the Act on Legislative Drafting and Evaluation of Law B.E. 2562 (2019) which requires government agencies to evaluate the outcomes arising from the enforcement of the laws within the scope of their responsibility. For the evaluation process, they shall conduct consultation with stakeholders and consider improving the efficiency of law enforcement; therefore, the objective of the law has been achieved and it is suitable to the changed circumstances. During 2023, the BOT completed the evaluation process of the enforcement outcomes of three laws, i.e., (1) the Emergency Decree on Asset Management Company B.E. 2541 (1998), (2) the Credit Information Business Operation Act B.E. 2545 (2002), and (3) Emergency Decree on the Provision of Assistance and Rehabilitation of Business Operators Impacted by the Spread of the COVID-19 Pandemic, B.E. 2564 (2021).

Currently, the BOT is in the process of evaluating the enforcement outcomes of the law related to the financial institution business. The BOT had already conducted the public consultation of the law from September 29 to October 31, 2023, and would consider all opinions received from the public, business operators, government agencies, and financial institutions, including SFIs, together with the information from the RIA project, to evaluate the enforcement outcomes of the law.

4 ** **Apply the "Think holistically, Response practically" principle to internal operations.

The BOT applied the "Think holistically, Response practically" campaign or RIA principle to the internal management to increase efficiency, reduce risks, and mitigate potential impacts. This included (1) intensive budget screening through the Value for Money (VfM) evaluation process and conducting RIA & lean process prior to investment, (2) developing guidelines to determine organization's risk appetite to be used as a framework for operations and resource allocation that supports the changing context and responds to the future operations of the BOT, and (3) the data filtering process that considers the cost and benefits of using data that has been surveyed for opinions from stakeholders in all aspects.



BOX 7 | BOT and the strategy to cope with the future

Under the context of Thailand's financial economy, the BOT had fine-tuned its operational approach from primarily addressing short-term issues during the COVID-19 crisis to enhancing the resiliency of Thailand's financial system to cope with uncertainties. At the same time, the BOT needed to adjust and prepare to drive its mission in the future.

The BOT, thus, developed the BOT's Strategic Plan for 2024-2026 to determine its role under then changing context, taking into consideration key factors expected to impact Thailand's financial system in the next 3-5 years, including:

Domestic factors	International factors
Economic scars after the COVID-19 crisis that may still exist in the labor sector, business sector, and production, as well as the problem of high household debt level.	Technological advancements and the transition to the digital era have transformed the structure of production, competition, business models, and financial services. This creates challenges in supervision, economic conditions monitoring and assessment, as well as tracking international financial transactions.
The complete transition into an aged society has implications for the effectiveness of monetary and fiscal policies, as well as the management of personnel within the BOT in the future.	The trend towards environmental sustainability , which presents both opportunities and risks for the Thai economy, leads to changes in various factors. These include the values of consumers and investors, rules and policies of the government, as well as international trade policies.
Changes in the structure of the financial system and the roles of players. The increasing diversity of new service providers, some of which are not under state regulation, may impact the structure of the financial system. This may create volatility in financial markets and investments, posing challenges to monitoring and managing financial risks.	Geopolitical tensions can impact trade structures, asset demand, asset prices, and exchange rate directions.

The new strategic plan of the BOT emphasizes the promotion of three main pillars:

1 \ Strengthening the resilience of the economy (shifting focus to resiliency)

The BOT aims for the Thai economy to not only be stable and strong, but also resilient to uncertainties. This pillar focuses on pushing forward the three main aspects:

(1) Appropriately integrating the use of various policy tools according to economic context to maintain economic and financial stability. Also, the supervision of financial service providers has to be enhanced by upgrading knowledge, improving guidelines and methods of supervision to be continuous and comprehensive. This includes the development of modern tools such as supervisory technology and using data to deeply analyze and monitor risks in all aspects, to supervise in a timely manner and help continuously assess the implications for financial system stability.

(2) Building immunity for the business sector and the public by creating buffers and increasing options readily available to cope with future volatility. Examples include accelerating the proactive household debt resolution, upgrading preventive measures and mechanisms to solve financial frauds together with related agencies, as well as improving the rules and guidelines for supervising financial institutions and foreign exchange control. These actions will allow financial service providers and operators to adjust and manage risks efficiently as well as encourage creation of various tools available to support business and individual transactions.

(3) Creating new growth opportunities from both digital and sustainability trends. Examples include opening for various service providers to access financial infrastructure at the appropriate and fair costs (Open Infrastructure). Opening for the utilization of data (Open Data) to increase the opportunity to access financial services and lead to the development of services that better serve demand. Opening for competition for both existing and new players to provide services and develop financial innovations (Open Competition) to meet customer needs and reduce financial services access gap, especially for retail customers and SMEs. This also includes laying down 5 key foundations to support the Thai financial sector to be ready to cope with environmental changes and support the business sector transition towards environmental sustainability.

2 \ Enhancing the organizational capability (transforming)

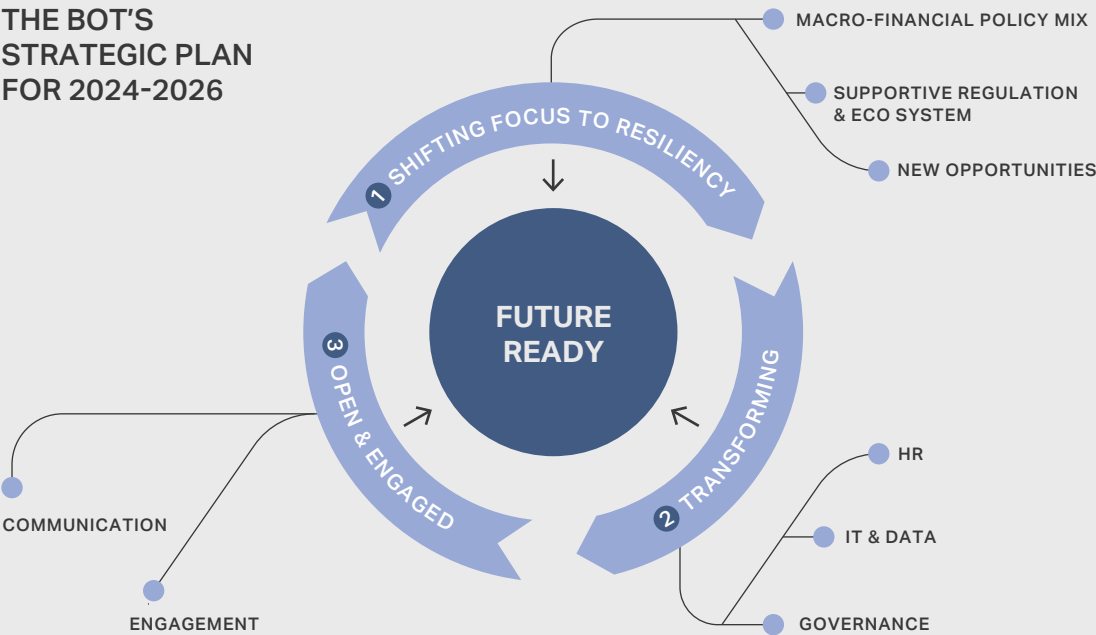
The BOT aims to prepare its personnel adequately and equip them with necessary skills for future missions. Employees are motivated to create achievements and continuously develop themselves. They are also developed to become capable leaders who can consistently drive the organization forward. Additionally, the BOT places importance on enhancing the capacity to

utilize information technology and data to support evolving missions. This includes implementing comprehensive processes for planning, budgeting, and monitoring resources, known as “Work, Budget, People” integration, to allocate resources in line with the organization’s strategic objectives within an acceptable risk level.

3 \ Communicating, listening, learning, and collaborating with stakeholders (open & engaged)

To strengthen confidence in the BOT, communication is utilized as a tool to enhance the effectiveness of policies and ensure consistent communication in one direction (One BOT). Moreover, the BOT aims to build a network of partnerships, both domestically and internationally, to collaborate and drive interrelated policies towards achieving shared goals. This includes fostering a working environment that is receptive to listening and learning from external sources, facilitating the exchange of beneficial knowledge for the work of the BOT.

THE BOT'S STRATEGIC PLAN FOR 2024-2026







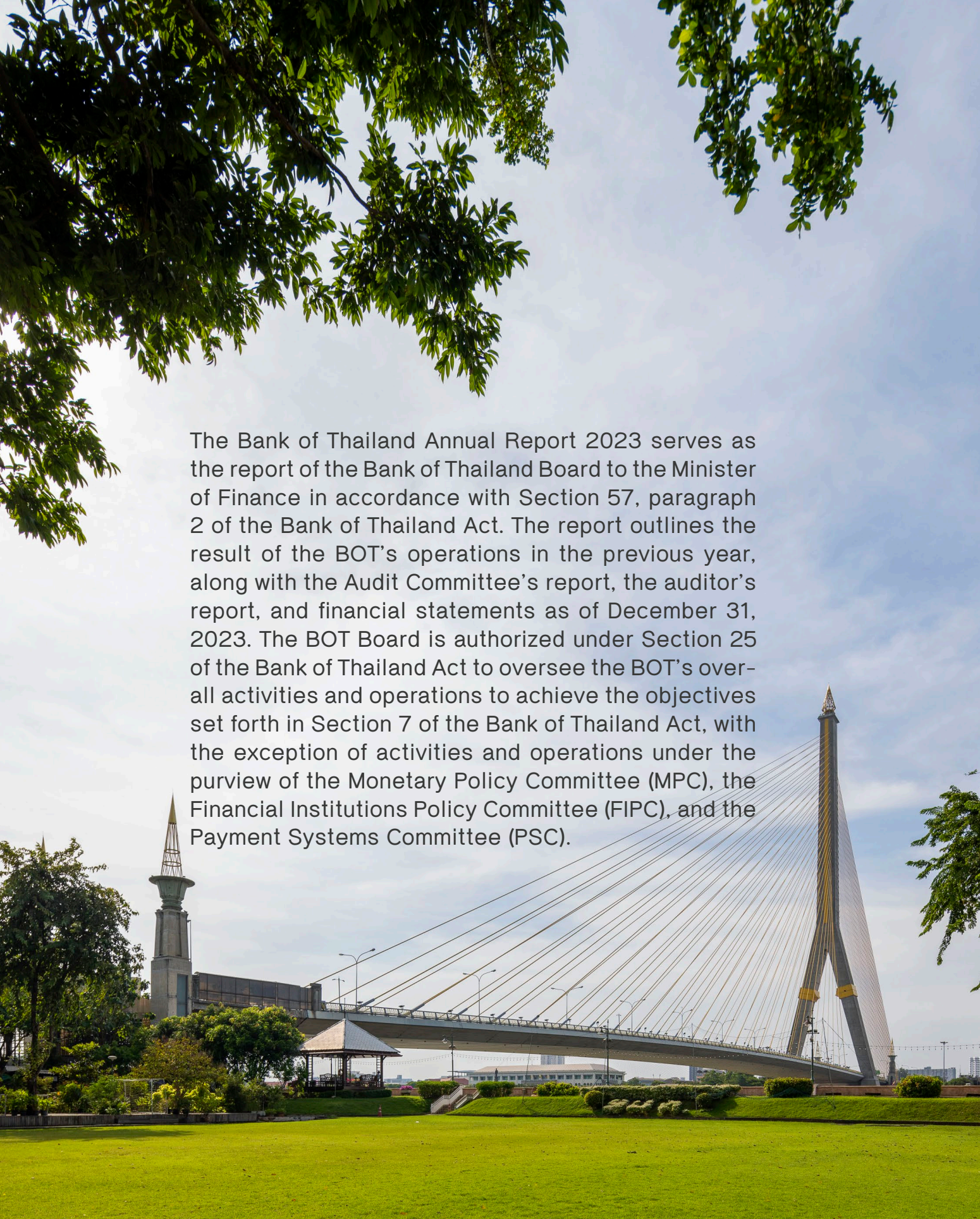


CHAPTER


4

Corporate Governance and Risk Management


- \ Overall Operations of the Bank of Thailand Board
- \ Corporate Governance
- \ Risk Management
- \ Promulgation and Revision of Laws Related to the BOT's Operation
- \ Audit Committee Report
- \ Report of Risk Oversight Committee
- \ The BOT's Missions and Financial Statements
- \ The Bank of Thailand Board



The Bank of Thailand Annual Report 2023 serves as the report of the Bank of Thailand Board to the Minister of Finance in accordance with Section 57, paragraph 2 of the Bank of Thailand Act. The report outlines the result of the BOT's operations in the previous year, along with the Audit Committee's report, the auditor's report, and financial statements as of December 31, 2023. The BOT Board is authorized under Section 25 of the Bank of Thailand Act to oversee the BOT's overall activities and operations to achieve the objectives set forth in Section 7 of the Bank of Thailand Act, with the exception of activities and operations under the purview of the Monetary Policy Committee (MPC), the Financial Institutions Policy Committee (FIPC), and the Payment Systems Committee (PSC).

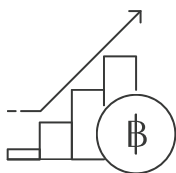


Overall Operations of the Bank of Thailand Board



In 2023, the Bank of Thailand (BOT) carried out its mandates in preserving stability of the economic and financial system, supporting sustainable economy, and ensuring the economy was prepared to adjust to the new financial landscape in line with the changing technology and environmental trends affecting the economic system.

The Bank of Thailand Board (the BOT Board) played a vital role in overseeing the BOT's mandate in developing the financial sector that can appropriately adjust to rapidly evolving situations and help support the overall economy to be resilient to changes in a sustainable manner. This was coupled with strengthening fundamentals of the organization to enhance the efficiency of the BOT's operations amidst a context of high uncertainty, as well as improving risk management and promoting good governance within the organization.

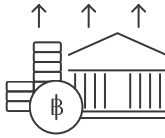


1 \ Operations to support economic recovery and accommodate the change of financial landscape

The BOT Board supported the policy implementation of the three policy committees (Monetary Policy Committee: MPC, Financial Institutions Policy Committee: FIPC, and Payment Systems Committee: PSC) which prioritized the promotion of continuous economic recovery and management of risks to Thailand's financial stability. The committees have supported the BOT in implementing monetary policy and financial measures under the context of an economic recovery and a smooth transition, together with the protection of vulnerable groups, especially households with high debt burdens. The BOT issued a directional paper on "Sustainable Solutions to Thailand's Household Debt Problems" in February 2023 to provide in-depth information on Thai household debt and communicate the principles of debt resolution that required correct implementation throughout all stages of indebtedness with collaboration among all stakeholders. Moreover, the committees have implemented more targeted and sustainable measures to take care of household debt, such as responsible lending, supporting good credit culture, and promoting financial discipline for customers. These measures were an important part in solving the household debt problems sustainably.

For the development of the financial sector to cope with environmental changes and digital trends, the BOT has issued policy guidelines to drive the financial sector to assess environmental risks in business operations actively and systematically. This involves establishing an important foundation of the green ecosystem in collaboration with relevant agencies, such as issuing Thailand's classification standard for environmentally concerned economic activities (Thailand Taxonomy). In addition, the BOT has developed a digital financial infrastructure that will enhance long-term potential of the Thai economy. For example, linking international payment services to help improve convenience, speed, safety, and reduce transaction costs, testing the public use of retail Central Bank Digital Currency (CBDC) in a limited scope (pilot phase) to evaluate the efficiency and safety of CBDC for payment of goods and services and also issuing policy guidelines to protect the public against digital financial frauds.

Under the rapidly changing economic context, the BOT focused on building resiliency for the country's economic system, coupled with building a strong foundation for the BOT to be ready to undertake missions in the future. The BOT Board has therefore approved the formulation of the BOT's strategic plan for 2024-2026, which sets a clear direction for the BOT's future operations. This is to ensure that the BOT's policy implementation and operations can keep up with the new environment, be a trustworthy organization, plays an important role in advancing the Thai economy to achieve a sustainable growth. It also serves as a coordination point for internal organizational operations to drive the organization towards the future.



2 \ Increasing efficiency in official foreign reserves management

In the context of a volatile global economy and intense geopolitical situations with uncertain consequences, the BOT Board emphasized the importance of overseeing the management of official foreign reserves that adhered to principles of discretion, flexibility, and concision under appropriate risk management. The BOT Board also encouraged the BOT to study approaches to mitigate the impact of geopolitical risks on reserves management and approved the expansion of the investment universe to enhance the efficiency of official reserves management and better diversify risks. This was to ensure that the central bank's mission of overseeing economic stability can continue to be carried out.



3 \ Supporting international cooperation

The BOT Board recognized the importance of policy implementation and international cooperation to maintain Thailand's roles and participation in addressing crises, supporting global economic development, and promoting cross-border payments. The BOT Board approved the establishment of a Bilateral Swap Arrangement (BSA) between the BOT and the Central Bank of Malaysia, with the aim of resolving short-term liquidity or balance of payments problems and supporting the use of local currency for trade and investment between the two countries. In addition, the BOT Board approved the renewal of the BSA between the BOT and the Bank of Japan to maintain the financial stability of both countries. Furthermore, the BOT Board supported the participation in the "Nexus" project initiated by the Bank for International Settlements (BIS) in collaboration with five central banks to jointly develop a multilateral real-time retail payment systems, which will enhance the efficiency of connecting systems across multiple countries simultaneously. The BOT Board also acknowledged that the BOT, in collaboration with the Ministry of Finance, is preparing to host the 2026 Annual Meetings of the International Monetary Fund and the World Bank Group in Bangkok.



4 \ Enterprise risk management

The BOT Board emphasized proactive risk management to ensure that the BOT's policy implementation and operations kept pace with the changing environment.

The Board monitored and assessed various risks such as (1) risks of severe cyber-attacks on the BOT, (2) risks related to data leakage and integrated data governance, (3) reputational risks that could impact public trust and the financial system, and (4) risks related to the readiness of the organization and personnel to accommodate rapid changes and increasingly complex roles of the BOT. The BOT Board supported the BOT in continuously enhancing cyber security, implementing robust data governance procedure, and accelerating the enhancement of organizational capabilities, especially in preparing enough personnel with the necessary skills for future work. This included having an efficient resource allocation process that aligned with appropriate risk management.



5 \ Promoting good governance in the organization

The BOT Board prioritized the promotion of good governance in the organization and emphasized that the BOT should perform its duties according to appropriate governance principles to enhance credibility and public trust. The Board approved the revision of the BOT's rules regarding conflicts of interest in performing legal duties and guidelines on securities trading and financial transactions of the members of the BOT Board, MPC, FIPC, and the PSC, to provide clearer and more comprehensive guidelines. In addition, the Board approved measures to prevent conflicts of interest in the duties of other committees and the BOT's advisors, who may receive important information and have a stake in the BOT's operations.



6 \ Organizational restructuring

The BOT Board approved the BOT's organizational restructure by consolidating financial institutions supervision departments into a single group for efficiency in financial institutions inspection. The strategic units for financial institutions and payment systems were centralized under the same Financial Institutions Policy Group to ensure a comprehensive and consistent design of the financial landscape. Moreover, the consumer protection units were integrated into the Payment Systems Policy and Financial Consumer Protection Group to ensure consistency across operations from building public financial immunity to issuing supervision policy and solving debt problems.



Corporate Governance

The BOT is mandated as the national central bank, with the BOT Board overseeing overall activities, including planning, budgeting, and asset management, with the objectives of maintaining monetary, financial, and payment system stability. The MPC, the FIPC, and the PSC act as independent policymaking bodies in each area. The three committees hold joint meetings to exchange views and coordinate responsibilities on cross-cutting issues. Furthermore, the BOT's Audit Committee is responsible for monitoring and overseeing the operations of the BOT to ensure adherence to good governance principles, effective internal control systems, and efficient internal audit practices, as stipulated in the Bank of Thailand Act B.E. 2485 (as amended by the 6th revision in B.E. 2560).

The BOT Board has appointed the Risk Oversight Committee (ROC) and the Corporate Governance Committee (CGC) to facilitate effective oversight of the BOT operations. The ROC provides guidance on the BOT's risk management framework and practices to ensure alignment with the evolving environment. The CGC oversees corporate governance issues under the BOT Board's purview.

In 2023, the BOT faced several challenges, including global economic volatility arising from major central banks' interest rate adjustments and prolonged and unpredictable geopolitical situations. Rapid technological changes and the digital society also brought various types of financial fraud. Accordingly, the BOT had to accelerate its organizational improvement to prepare for future mandates and foster trust among stakeholders regarding its policies and oversight. The ROC, therefore, highlighted the management of critical enterprise risks to ensure that the BOT operated efficiently and adapted to new contexts and challenges.

The CGC focuses on ensuring that the BOT puts in place appropriate systems and practices in accordance with ethical principles. In 2023, the BOT issued a revised Regulation on preventing conflicts of interest for the BOT Board, the MPC, the FIPC, and the PSC. The revisions aimed at aligning the roles and responsibilities of the BOT Board and the three policy committees with new contexts and risks and being on par with central bank standards, providing a crucial foundation for corporate governance enhancement. The CGC also extended the conflict-of-interest guidelines to cover other committees with external members and consultants.

Additionally, the BOT participated in the Integrity and Transparency Assessment (ITA) program, organized by the National Anti-Corruption Commission (NACC). The forum has provided an opportunity for internal and external stakeholders to evaluate the integrity and transparency of the BOT's operations and allowed the BOT to disseminate relevant information to the public via its website. In 2023, the BOT maintained an A-level equivalent ranking for five consecutive years.

Risk Management



1 \ Enterprise risk management

The BOT rigorously manages risks following the Governance, Risk, and Compliance (GRC) framework. The BOT regularly updates its risk management processes to ensure they remain responsive and relevant to changing global contexts. In 2023, the BOT reviewed and updated its risk appetite framework to maintain its applicability in the present environment and serve as a reference point in decision-making processes to promote systematic risk assessment.

Moreover, in light of future challenges in the financial system, the BOT has developed corresponding policies and strategies and driven strategic initiatives implementation while taking interrelated risks into consideration. Additionally, identified strategic risks have been elevated to enterprise-level risks, necessitating close monitoring of associated risk mitigation measures.

2 \ Financial risk management

The BOT's mission in implementing monetary policy to maintain price stability and managing international reserves, posed financial risk to the BOT's financial statements. The BOT, therefore, had in place a rigorous financial risk management framework and process that adhered to international standards and principles of good governance.



1 \ Key risks affecting the financial statements of the BOT

The BOT, as a central bank, has its role and responsibilities in implementing monetary policies and maintaining the stability of the Thai baht to foster public confidence in the economic and financial stability of the country. Carrying out these duties inevitably posed unavoidable risks in the BOT's financial statements, namely foreign exchange rate risk and interest rate risk.

Foreign exchange rate risk on the financial statements of the BOT arose from the fact that the BOT's assets primarily consisted of foreign currency-denominated assets, while the majority of liabilities comprised of deposits and securities denominated in Thai baht. Interest

rate risk existed as a result of the difference between domestic interest expense incurred from the conduct of monetary policy and interest income the BOT received from managing international reserves, which involved investments in foreign markets.

2 \ Financial risk management of the international reserves

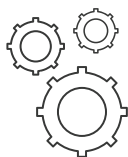
In 2023, global financial markets were still in a high uncertainty environment due to persistent inflationary pressures as well as heightened geopolitical risk. The BOT adapted investment strategies to address these risks in order to mitigate potential impacts on reserve management. Additionally, the BOT acknowledged the interconnection between climate risks and financial risks. This recognition prompted the initiation of studies on climate risk management strategies, with the ultimate objective of safeguarding the long-term value of reserves.

Management of international reserves took into consideration not only safety, liquidity, and return but also risks in investment as reflected in the objectives of international reserve management as follows:

- 1) To ensure adequate stability and liquidity for the implementation of monetary and exchange rate policy effectively.
- 2) To preserve the value of the international reserves and maintain liquidity in foreign currency to be used as buffers for the balance of payment deficits in both normal and crisis situations.
- 3) To maintain global purchasing power.
- 4) To be backing of the banknote issuance as stipulated by the Currency Act.

The BOT had in place a risk management framework covering key financial risks namely market, credit, and liquidity risks to support the international reserve management function to achieve its objectives. Furthermore, the BOT regularly undertook a review process to ensure that the reserve management practice aligned with the international standards and was comparable to those of other central banks.

The implementation of risk management framework and guidelines served as a key contributor in mitigating negative impact of potential losses to the value of the international reserves as well as its associated financial statements. The BOT also engaged in the monitoring of new developments in financial markets and financial instruments, along with international regulatory changes in invested markets. The purpose of these engagements was to ensure that the relevant developments or changes consistently applied to risk management and compliance functions at the BOT.



3 \ Enterprise risk management and operational management

The BOT has developed frameworks, tools, and processes for managing enterprise and operational risks in line with international standards. Actions taken included establishing risk management policies and regularly updating operational risk management guidelines in response to changing circumstances to ensure the achievement of the BOT's missions. Key risk management practices are as follows:

1 \ Control Self-Assessment (CSA)

The BOT required all departments to conduct a CSA at least once a year to identify and assess key risks associated with their strategic and business operations. The findings subsequently served as inputs to develop risk mitigation measures to help improve the efficiency and effectiveness of work processes and internal controls.

In this regard, the BOT's risk assessment follows the Rule of the Ministry of Finance on Standards and Internal Control Practice for Government Agency B.E. 2561 (2018).

2 \ Operational Risk Incident Reporting

The BOT required any department incurring a loss or a near-miss event to report such incidents. The reported incidents were then analyzed to identify root causes and determine appropriate measures to prevent future occurrences.

3 \ Key Risk Indicators (KRIs)

The BOT employed key risk indicators to monitor and assess its risk exposures. Key risks and risk trends (Risk Dashboard) were monitored and reported to the RMC (Risk Management Committee) and the ROC quarterly to ensure that such risks remained within acceptable levels and related corrective or preventive measures were identified accordingly.

4 \ Business Continuity Management (BCM)

The BOT has developed a business continuity management (BCM) policy establishing key BCM objectives and guidelines. The BOT has been certified under the international standard ISO 22301:2019 Business Continuity

Management Systems for the critical payment systems, i.e., the BAHTNET, by which the BOT is both the operator and member.

In 2023, the BOT developed the BAHTNET Offline (BNO), a contingency plan for the BAHTNET, which has been designated a Critical Information Infrastructure (CII) in the event that all of the BOT's data centers are unavailable. To facilitate the BNO's implementation, the BOT has developed the BAHTNET Lite system to ensure uninterrupted fund transfers among financial institutions without incurring widespread impacts. Controls and security measures have been implemented to reduce operational, IT, data, and cyber risks according to relevant standards. The BOT also oversaw the risk management of BAHTNET's client computers and service users, whose linkages may pose systemic risks to overall payment systems, by providing guidelines on maintaining the security of BAHTNET Lite client computers.

5 \ Information technology risk management

The BOT has continued to adhere to its IT risk management framework to identify, analyze, and monitor key IT risks and ensure proper and timely compliance with IT laws, regulations, and standards. The IT Risk Management Sub-Committee (IT-RMC) is responsible for reviewing the BOT's IT risk management policy framework and guidelines, approving and monitoring IT risk-related practices under the framework prescribed by the RMC.

In 2023, the BOT assessed its cybersecurity readiness and has been working on establishing short-term and long-term plans to enhance cyber security for its IT systems and infrastructure following the Zero Trust Architecture Framework. The efforts aimed at responding to the BOT's increasing adoption of cloud computing services and third-party services, expanded linkages

of systems with other organizations, as well as growing access from off-site work and personal devices, and cyber threats that became more severe, complex, and unpredictable.

In addition, the BOT has continuously enhanced the efficiency of its IT risk management capabilities as follows:

1. Implemented vendor risk management tools to timely and efficiently monitor, assess, and respond to changes in IT risks.
2. Restricted the use of LINE and USB devices that may lead to data leakage.
3. Provided Generative AI tools with proper data protection controls and guidelines for usage.
4. Strengthened cybersecurity awareness and incident response at both operational and executive levels and expanded networks and collaboration with other relevant agencies to exchange cyber threat intelligence.
5. Obtained ISO 27001:2013 Information Security Management Systems certification for the BAHTNET, the critical payment systems operated by the BOT, and operations of the BOT's internal BAHTNET members, as well as continually complied with relevant IT risk management guidelines, such as third-party IT risk management guidelines and cloud computing service's security standards.

6 \ Compliance risk management

The BOT has strengthened its mechanisms to monitor compliance with laws and regulations, such as improving the legal database for risk monitoring and assessment and establishing operational processes to comply with applicable laws and regulations. In 2023, the BOT implemented measures to adhere to significant legal frameworks, such as the Electronic Transactions Act, B.E. 2565 (2022), which requires the BOT to provide electronic channels for payment and licensing and permission services for other government agencies, the general public, and business providers under the BOT's supervision. In addition, the BOT has established and published electronic contact channels on its website and developed an internal system to support its staff and operations.



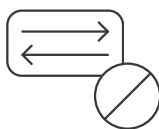
Promulgation and Revision of Laws Related to the BOT's Operation

In recent years, technological methods have been used to deceive the general public through various technological devices, causing people to lose a lot of property, and the scammers have transferred the property obtained from such offences through deposit accounts, electronic cards or electronic money accounts of other persons in rapid succession to conceal or disguise the offences causing highly damage value. And such offences are increasing, which affect a wide population and are dangerous to the country's economic system. Therefore, the BOT cooperated with the Ministry of Digital Economy and Society and related agencies by proposing the Emergency Decree on Measures for the Prevention and Suppression of Technological Crime B.E. 2566 (2023) which has been effective since March 17, 2023. The purpose of the law is to allow more flexibility in the supervision of financial transactions, exchange of information, and suspension of suspicious financial transactions, which require the collaboration of many agencies. Consequently, any technological crime can be prevented and suppressed effectively. The important mechanisms according to the law are as follows:



1 \ Exchanging information on suspicious accounts and transactions

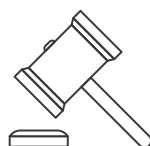
In the case where there is reasonable cause to suspect that a technological crime²⁶ has been or may have been committed, the financial institution and business operator under the law on payment systems (“business operator”) shall have a duty to disclose or exchange, between them, the information about accounts and transactions of the concerned customer via a system mutually agreed upon by the BOT, the Ministry of Digital Economy and Society, the Department of Special Investigation, and the Anti-Money Laundering Office, in order to prevent and suppress technological crimes.



2 \ Suspending the related transactions

In the case where a financial institution or a business operator suspects that any deposit account or electronic money account has been used or may have been used to execute a transaction relating to technological crime, they shall have a duty to suspend the transaction and inform financial institutions or business operators that accept the next transfer to temporarily suspend such transaction immediately for examination by a competent official. If there is reasonable evidence for believing that the account has been used for committing the offence, the competent official shall proceed in accordance with the law.

In the case where a financial institution or a business operator is informed by a victim who holds a deposit account or electronic money account that a transaction has been executed by such account and somehow is relevant to technological crime, they shall also have a duty to suspend such transaction and inform the victim to file a complaint with an inquiry official within a period specified by the law.



3 \ Clearly specifying offences and criminal sentences

Any person who commits a technological crime according to the offences specified by the law; for example, opening or allowing other persons to use his or her deposit account, electronic card or electronic money account to commit an offence relating to technological crime, or engaging in procuring, advertising or propagating to effect a purchase, sale, renting out or lending of such account to be used for committing the offence, shall be liable for a criminal sentence specified.

²⁶ “technological crime” means an act or an attempt of committing an offence under the law on commission of offences relating to computer in order to defraud, extort or blackmail any person or in a manner likely to cause injury to any other person, or a commission of an offence of defraud, extortion or blackmail using a computer system as an instrument. (Section 3 of the Emergency Decree on Measures for the Prevention and Suppression of Technological Crime B.E. 2566 (2023))

Audit Committee Report

Audit Committee Report For the year 2023

The Bank of Thailand Audit Committee (the AC) comprises three non-executive members of the Bank of Thailand Board (the Board) and two external experts. The Senior Director of the Internal Audit Group serves as the AC’s secretary.

In 2023, the AC held 17 meetings. The meeting attendance of the AC was as follows:

1 \ **Mr. Manas Jamveha** | Chairman
17/17

2 \ **Mr. Pakorn Nilprapunt** | Member
16/17

3 \ **Mr. Subhak Siwaraksa** | Member
17/17

4 \ **Mr. Chanchai Boonritchaisri** | Member
17/17

5 \ **Ms. Yaowaluk Chadbunchachai** | Member
14/15

Mrs. Pimpana Srisawadi | Member
2/2

Ms. Yaowaluk Chadbunchachai has been appointed as an AC member since February 27, 2023, in replacement of Mrs. Pimpana Srisawadi whose term ended.

The AC performs its roles and responsibilities as stipulated in the Audit Committee Charter and as assigned by the Board in order to assist the Board in overseeing the Bank of Thailand (BOT). The AC helps ensure that the BOT carries out its tasks in accordance with good governance principles, appropriate risk management and effective internal controls. The AC also ensures that internal audit function is performed efficiently and effectively, and the internal auditors fulfill their responsibilities with independence and objectivity.

In 2023, Thailand’s economy continued to recover. The BOT played an important role in ensuring

sustainable financial economic recovery and facilitating financial sector development in response to the evolution of digital technology. Consequently, the AC provided oversight of internal audit activities that support the BOT’s key missions and foundation for long-term sustainability. The scopes of auditing included the engagements related to the BOT’s strategic plan, payment system, financial technology, cybersecurity, as well as compliance with the Electronic Performance of Administration Functions Act, B.E. 2565 (2022).

Key performances of the AC in 2023 are summarized as follows:

1. Review of Financial Statements

The AC reviewed the financial statements of the BOT, the Currency Reserve and the Banknote Operations. The AC viewed that the financial statements were reliable and fairly presented the financial position and performance in all material aspects in accordance with the Thai Financial Reporting Standards, accounting practices for central banks, as well as relevant regulations. Information disclosure was also adequate, appropriate, and beneficial to users.

2. Supervision and Development of Internal Audit

The AC reviewed audit reports submitted according to the 2023 audit plan. These reports covered diverse areas crucial to the BOT's operations, including its strategic plan, development of financial technology, reserve management, polymer banknote production, cloud computing services, compliance with SWIFT Customer Security Programme, the standard for Information Security Management systems (ISO 270001), the standard for Business Continuity Management Systems (ISO 22301), and the Electronic Performance of Administration Functions Act. B.E. 2565 (2022) as well as high-value project assessments.

The AC found that these internal audits provided valuable assurances regarding the BOT's risk management and internal controls. The recommendations delivered were beneficial and supportive, enabling the BOT to operate efficiently and effectively in pursuit of its goals and missions, with readiness for future challenges.

The AC emphasized the value of both performance audit and compliance audit. They promoted the utilization of data analytics and technology to enhance the efficiency and effectiveness of internal audit activities. Furthermore, the AC also stressed the importance of skill development of the internal audit resources to keep abreast of and be properly equipped for the increasing challenges of technology disruption as well as new financial and economic landscape.

3. Coordination on Risk Management

The AC and the Risk Oversight Committee held two joint meetings to exchange views on the enterprise risks, risk management, the 2023 audit engagement results and the 2024 audit plan. The two committees also exchanged relevant information regularly to ensure the efficient and effective operation of risk management and internal controls and that internal audit activities were timely, appropriate, and contribute to effective controls of the BOT's key risks.

4. Meetings with the BOT Governor

The AC conducted two meetings with the BOT Governor to discuss the internal audit approach, the 2023 audit engagement results and the 2024 audit plan. The discussion ensured the alignment of the audit plan with the BOT's enterprise risks and strategic plan, so that it was suitable for the situation and addressed the key concerns of the Board and executive management.

5. Promoting the Independence of External Auditor

The AC conducted two meetings with the external auditor (State Audit Office of the Kingdom of Thailand: SAO) independently of the management to facilitate open discussion on relevant matters. These sessions provided an opportunity to exchange views on the financial statements of the BOT, the Currency Reserve and the Banknote Operations, as well as the audit results of procurement and supply administration process and compliance audit.

6. Reporting of the AC Work

The AC prepared and submitted its work reports to the Board and the Ministry of Finance on a quarterly basis, in accordance with the provisions of Section 55 of the Bank of Thailand Act B.E. 2485 (1942), as amended by the Bank of Thailand Act (No. 4) B.E. 2551 (2008).

Summary of the AC's Opinion

In an effort to fulfill its responsibilities based on the scope and authority as per the Audit Committee Charter, the AC endeavored to do its best in applying knowledge, ability, experience and skills of individual committee member towards conferring independent and impartial opinions and recommendations to the Board, the management and officers, while taking into account the interests of all stakeholders. The AC has received good cooperation from both the management and the audited departments. As such, the audit recommendations had been discussed and implemented.

Overall, the AC concluded that the Board, the Policy Committees, the management and officers emphasized the importance of good governance, effectiveness and efficiency, transparency and credibility. The BOT operated under prudent risk management including fraud risk management, effective internal and financial control, and compliance with laws and regulations. The audit results were beneficial and in line with best principles, providing a reasonable assurance that the BOT's operational processes would accomplish the mission and strategic plans set forth in an efficient manner.

(Mr. Manas Jamveha)

Chairman of the Audit Committee
Bank of Thailand

Report of Risk Oversight Committee

Report of Risk Oversight Committee (ROC) 2023

The Risk Oversight Committee (ROC) consists of five members, of whom at least three are non-executive directors of the BOT Board and two are external experts. The Assistant Governor, Risk Management Group, serves as the secretary. The current ROC members include:

- 1 \ **Mr. Subhak Siwaraksa | Chairman**
Member of the BOT Board
- 2 \ **Mr. Rapee Sucharitakul | Member**
Member of the BOT Board
- 3 \ **Mr. Nontigorn Kanchanachitra | Member**
Member of the BOT Board
- 4 \ **Mr. Sak Segkhoonthod | Member**
External expert
- 5 \ **Miss Jaruvan Hengtrakool | Member**
External expert

The ROC, by its charter and the delegation by the BOT Board, is responsible for overseeing the BOT's enterprise risk management to ensure that the BOT manages risks appropriately and in line with good corporate governance principles, thereby enabling the BOT to achieve its mission and vision.

In 2023, the BOT faced various challenges, including global economic volatility arising from major central banks' interest rate adjustments and prolonged and unpredictable geopolitical situations. Rapid technological changes and the digital society also brought various types of financial fraud. Accordingly, the BOT must accelerate its organizational readiness for future

mandates, foster stakeholder trust in its policies and oversight, and strengthen risk management. The ROC, therefore, has highlighted the management of critical enterprise risks and organizational preparation to cope with internal and external risk factors to ensure that the BOT operates efficiently, keeps up with new contexts and challenges, and rigorously manages associated risks.

In 2023, the ROC held nine meetings and two joint meetings with the BOT Audit Committee to discuss enterprise risk management concerns and the 2024 audit plan to coordinate controls of key enterprise risks. The ROC also held another joint meeting with the BOT top executives to exchange views on key challenges,

risk issues, and risk management approaches. The ROC updated the BOT Board on its activities quarterly and when there were major concerns. Key activities are summarized as follows:



1. Reviewing Risk Management Framework and Processes:

The ROC reviewed the BOT’s risk appetite framework to enhance decision-making. The updated framework aims to establish a common understanding of acceptable risk levels, facilitate the evaluation of costs, risks, and benefits, and result in better risk measure selection, prioritization, and resource allocation. The revised framework also assists in aligning risk management tools, leading to improved root cause analysis, key risk indicator (KRI) determination, and effective risk mitigation identification, allowing the BOT to maintain risks within acceptable levels.



2. Enterprise Risk Assessment:

The ROC reviewed the 2023 enterprise risks and assessed the 2024 enterprise risks to keep up with the changing economic and financial context. To this end, the ROC has addressed the risks associated with developing strategies that effectively and efficiently meet future needs (strategic formulation), implementing initiatives to attain strategic goals timely and cost-effectively (strategic implementation), and adopting technology to respond to the new environment (IT adoption). The ROC also highlighted personnel development, preparing an adequate and competent workforce for future work, fostering a work culture that encourages growth and change, and identifying measures to keep risks within an acceptable level.



3. Financial Risk Management:

The ROC reviewed the investment criteria to enhance interest rate risk management and has continuously monitored portfolio performance and financial risk management of foreign reserves under rising geopolitical risks. The ROC also advised considering the geopolitical risks when evaluating the governance and economic growth of the prospective investment country while developing investment strategies and long-term asset allocation.



4. Information Technology Risk Management:

The ROC focused on risks arising from severe, complex, and uncertain cyber threats, third-party service usage, and end-of-support products. The ROC has continuously monitored enhancement in the protection and detection capabilities of the BOT's cybersecurity systems as well as any significant IT and data incidents. The ROC provided recommendations on the IT risk management framework, in line with the international standards and best practices, and ensured that the BOT's operations complied with such framework.



5. Operational Risk:

The ROC monitored operational risks through various tools, including control self-assessment (CSA), operational risk incidents, and key risk indicator reports, and oversaw business continuity management following the ISO 22301:2019 international standard.

In conclusion, the ROC carried out its responsibilities to oversee the BOT enterprise risk management within the scope, authorities, and responsibilities specified by the BOT Board. The ROC concluded that the BOT employed effective and appropriate risk management practices to keep its risks below acceptable limits while adhering to sound corporate governance principles, allowing the BOT to successfully carry out its duties and mandates in a constantly changing environment.



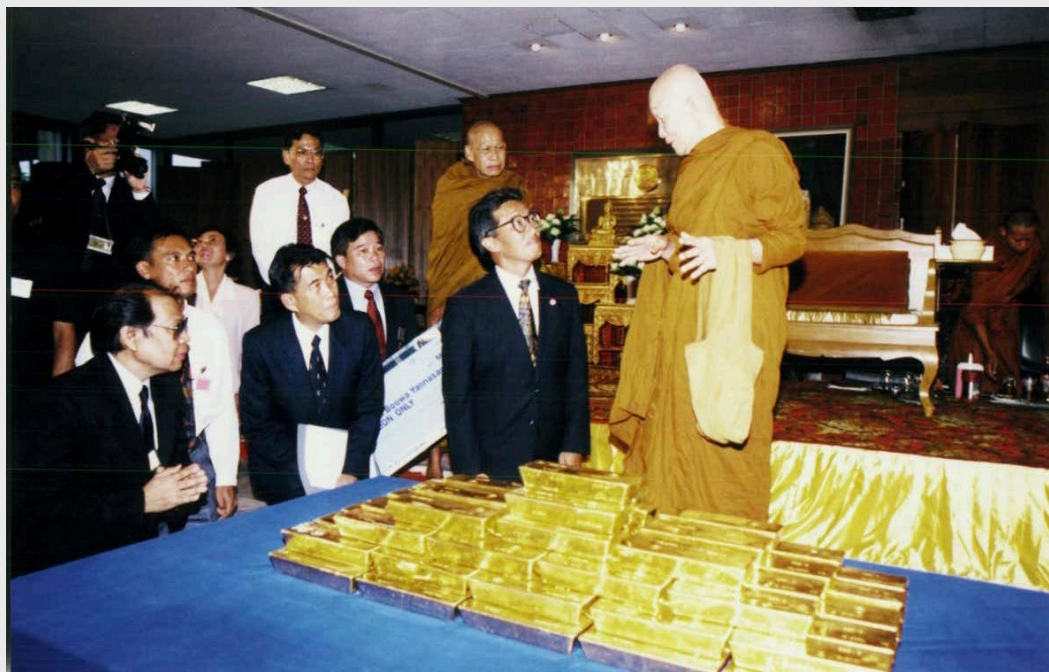
BOX 8 | Gold Donation through Luang Ta Maha Bua: from the Public's Faith to Conservation in the "national reserves".

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Deeming the BOT's reserves significantly important to the Thai economic stability, Luang Ta Maha Bua therefore initiated the gold and fund raising scheme to support the reserves for banknote printing. Our revered Luang Ta witnessed the dramatic nation's financial chaos as a result of the Tom Yum Koong crisis during 1996-1997. Thus, he placed emphasis on gold as part of reserves. He told all of his following monks to stop construction projects to save money and buy gold to add to the national reserves I myself followed suit and gather money to buy gold for donation through Luang Ta

”

Lunag Por Inthawai Santussago, abbot of Na Kam Noi Forest Monastery



Luang Ta Maha Bua was preaching a sermon during the fund-raising ceremony called "Phapa Chuay Chart" at the BOT on December 4, 1999.



The Gold Handover to the National Reserves Ceremony on April 27, 2023

Phra Thamma Wisutthimongkhon (Bua Nāṇasampanno) or “Luang Ta Maha Bua” felt hurt when seeing the Thai people struggling financially during the 1997 crisis. He thus decided to raise the public’s hope by founding the fund-raising scheme “Phapa Chuay Chart” (Buddhist robes helping the nation).

The Phapa Chuay Chart activity attracted overwhelming attention of the followers and the public. Luang Ta and his followers handed over the gathered funds to the BOT for the first time on July 6, 1998, totaling 1,278,000 US dollars. However, the form of the later fund raisings was mainly changed to gold donation. As a result, the gold handover for the first time was held on May 4, 1999. M.R. Chatu Mongol Sonakul, the BOT governor at that time was the BOT’s representative to receive 83 gold bars, with a total weight of 1,036.738 kilograms or approximately 1 ton, together with 3 million US dollars in cash, being regarded as a historic phenomenal of the Thai citizens’ kindness.

Although Luang Ta passed away in 2011, his initiative remains with the support of public faith. Phapa Chuay Chart and the gold handover ceremony were held on a regular basis until now. In 2023, as the 110th anniversary of the birth of Laung Ta Maha Bua, the BOT

received 14.495 kilograms of gold from his followers to be conserved in the currency reserve account, which have been known as the “national reserves” by Luang Ta and his followers. The total balances of gold and foreign currencies were 13,117.339 kilograms and 10,457,159.63 US dollars, respectively (as of May 18, 2023)

All of the gold and other assets donated are properly kept with utmost security. The BOT officials and committee members from external agencies such as State Audit Office of the Kingdom of Thailand conduct an examination on a yearly basis. In addition, the donation balance is disclosed on the BOT website bot.or.th (The Summary of gold and foreign currency donation from the Phapa Chuay Chart scheme-in Thai), including data since the scheme was launched to ensure transparency and allow the public to conduct examination.

The BOT has explicitly separated assets donated through the scheme to be recorded in “Special Reserve Account” under the currency reserve account. Assets in Special Reserve Account will be used for supporting banknote printing only when necessary. The public is therefore reassured that all the assets donated will perpetually function as the national properties in accordance with Luang Ta Maha Bua’s initial intention.

The BOT's missions and financial statements

As a central bank, the BOT's missions differ from that of business entities. Therefore, the central bank's financial statements are unique and distinct from other businesses, and so interpreting the BOT's statements should take into account its missions as a central bank.

1 \ Missions of the central bank

1 \ Maintaining economic stability

Section 7 of the Bank of Thailand Act B.E. 2485 (1942), amended in B.E. 2561 (2018), stipulates that the objective of central banking is to carry on tasks to maintain monetary stability, financial institution system stability, and payment systems stability, in other words, the overall economic and financial stability.

The BOT's mission is similar to that of other central banks, which is to maintain both internal and external economic stability. "Internal stability" refers to preserving the value of the Thai baht and Thai assets to

prevent them from being depreciated by inflation, and also preventing vulnerabilities in the financial system that could lead to a future financial crisis. "External stability" refers to the monitoring and oversight of the movements in the value of the Thai baht, to ensure that it is in line with economic fundamentals and not excessively volatile, so as to maintain Thailand's purchasing power in the global economy and keep foreign debt levels low, as well as to ensure sufficient levels of international reserves to cushion the impact from volatilities in the global financial and capital markets.

2 \ Printing and issuing banknotes for circulation in the economy

Section 14 of the Currency Act B.E. 2501 (1958), amended in B.E. 2545 (2002), stipulated that the BOT has the authority to print, manage, and issue banknotes. In ensuring that the Thai baht and Thai banknotes would be widely accepted, Thailand must implement credible monetary and macroeconomic policies, and also maintain credible assets to back up the value of the Thai baht. On this, Section 26 of the Currency Act stipulates that "For the purpose of maintaining the stability of the currency, the

BOT shall maintain a currency reserve, hereinafter to be called the Currency Reserve". In issuing banknotes in circulation, the BOT has to segregate reserve assets of equal value to the issued banknotes. These reserves may consist of gold, foreign assets, or domestic assets, but currently they are entirely foreign assets.

These two key missions are interconnected and are fundamental factors for robust and stable economic growth.

2 \ The Bank of Thailand Account and the Currency Reserve Account

To deliver on the above two key aspects of the BOT's missions, the law requires the BOT to segregate its transactions into the following two accounts:

The Bank of Thailand Account	
Asset	Liabilities
<div>≈ 85%</div> <div>International reserves</div>	BOT bills and bonds Deposits from financial institutions and government
<div>≈ 15%</div> <div>Thai baht-denominated assets</div>	
	Equity

The Currency Reserve Account	
Asset	Liabilities
<div>100%</div> <div>International reserves</div>	Banknotes in Circulation
	Equity

1 \ The Bank of Thailand Account

The Bank of Thailand Account is the account associated with the mission to safeguard economic stability. In the simplified Bank of Thailand Account, the asset side consists mostly of international reserves in foreign currencies, which account for approximately 85 percent of total assets. The remaining balance is in Thai baht consisting mostly of Thai government bonds. Meanwhile, the liabilities primarily consist of BOT bills and bonds issued for monetary policy operations to safeguard economic stability, and deposits from financial institutions and the government. All these liabilities are denominated in Thai baht.

2 \ The Currency Reserve Account

The Currency Reserve Account is the account associated with the mission of printing and issuing banknotes for circulation in the economy. The asset side consists entirely of international reserves, which are mostly held to back up the issuance of banknotes, as required by law. Meanwhile, the liability side consists of Thai baht banknotes in circulation. In essence, the banknotes utilized by the public for economic transactions are regarded as the central bank's liabilities.

3 \ Distinctive characteristics of the BOT's financial statements

1 \ The assets and liabilities have a currency mismatch

The central bank's assets are mostly foreign assets or international reserves, whereas the liabilities are mostly denominated in the country's local currency (Thai baht in the BOT's case), resulting in a currency mismatch between the central bank's assets and liabilities. At the end of each financial year, the BOT's foreign assets need to be converted to Thai baht in order to prepare the financial statements. The foreign exchange revaluation is done to hypothetically indicate how much Thai baht would be received if all the foreign assets were liquidated. As a result, the profit or loss on the financial statements are mostly from the valuation.

Having a revaluation every year-end means that changes in the foreign exchange rates and asset prices could significantly influence the figures in the financial statements, especially when there is a high proportion of foreign assets. To illustrate, if the BOT has 250 billion

US dollars of foreign assets and the Thai baht depreciates by one baht, a valuation gain of 250 billion baht would be recorded. On the contrary, if the Thai baht appreciates by one baht, a valuation loss of 250 billion baht would be recorded.

The revaluation measures the value of assets in terms of Thai baht, however, in reality, the BOT's level of international reserves in foreign currencies remains unaffected. Hence, although the BOT's financial statements may show losses in some periods, it is not a cause for concern because it could be attributable to a valuation loss. When looking at the BOT's past financial statements, profits can be seen in some years, and losses in others, mainly as a result of the revaluation of assets.

2 \ International reserve management aims to preserve its long-term value in terms of foreign currencies

The central bank's mission is to safeguard economic stability, which requires a long-term and forward-looking perspective rather than focusing on temporary economic trends. Likewise, in the management of international reserves, the BOT invests in assets worth owning for the long-term value, along with suitable risk diversification. Consequently, short-term volatilities may be observed. Furthermore, because international reserves comprise foreign deposits and assets, gold, and reserves at the International Monetary Fund (IMF), therefore, their returns are evaluated in terms of foreign currencies, since the central bank must ultimately keep international reserves readily available and adequate. On the other hand,

financial statements are prepared within a pre-determined timeframe (usually annually), resulting in misaligned timeframes between that of financial statements and that of measuring returns from international reserve management.

In addition, the management of international reserves usually entails adjusting investment allocations to be in line with the global economic outlook, to diversify risks and improve long-term returns, rather than in pursuit of profit.

3 \ The central bank's liabilities are distinct from that of business entities

The BOT's liabilities arise from (1) printing an adequate quantity of banknotes to meet the needs of the economy and (2) safeguarding economic stability and preserving the value of the Thai baht and Thai people's assets from deteriorating. Hence, the BOT's liabilities are not intended to benefit any specific group, company, or even the BOT itself, but rather are liabilities arising from operations for the benefit of the Thai public at large. This is what distinguishes the BOT's liabilities from businesses' liabilities, which arise for the purpose of spending or investing for the businesses' own private benefit.

The BOT, as the central bank, has banknotes in circulation as the first element of its liabilities. Banknotes serve as a medium of exchange that is widely accepted as legal tender, paving the way for other economic activities and trade or exchange of goods and services.

The second element is liabilities resulting from the operations on the mission to safeguard economic and financial stability. When there is surplus liquidity in the financial system, the central bank issues central bank bills or bonds to absorb the excess liquidity (increasing liabilities). Conversely, when there is a liquidity shortage in the financial system, the central bank redeems those bills and bonds to inject liquidity into the system (decreasing liabilities).

The third element is financial institutions' deposits at the central bank, as the central bank serves as an intermediary of the financial institution system for interbank payments as well as for the financial institutions' own liquidity management.

The final element is government deposits, or treasury reserves, which arose from the government's cash flow management across different time periods.

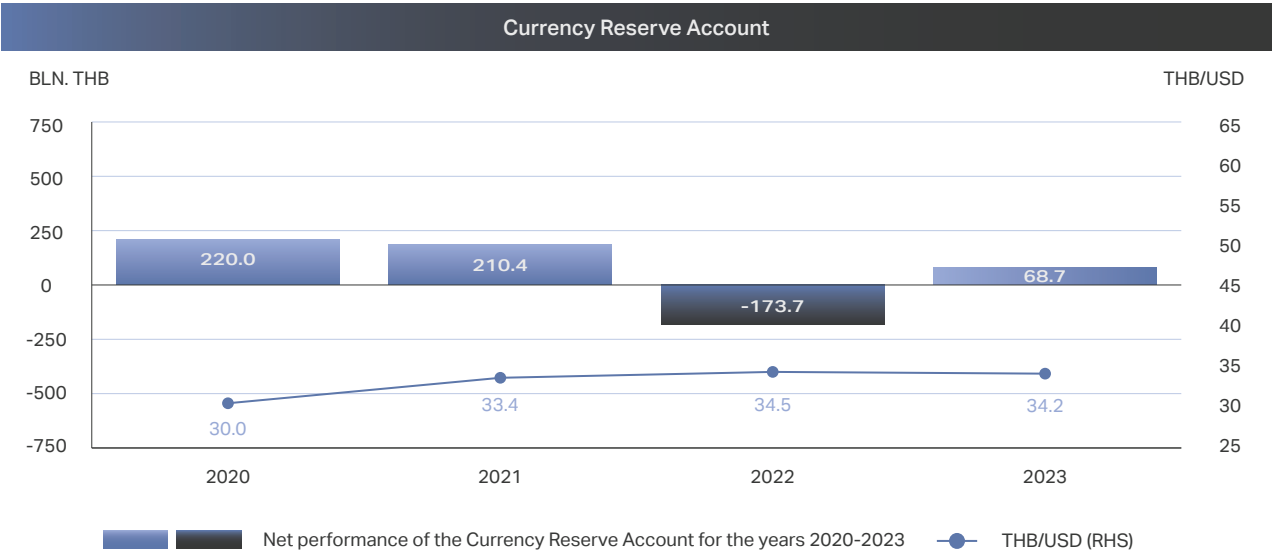
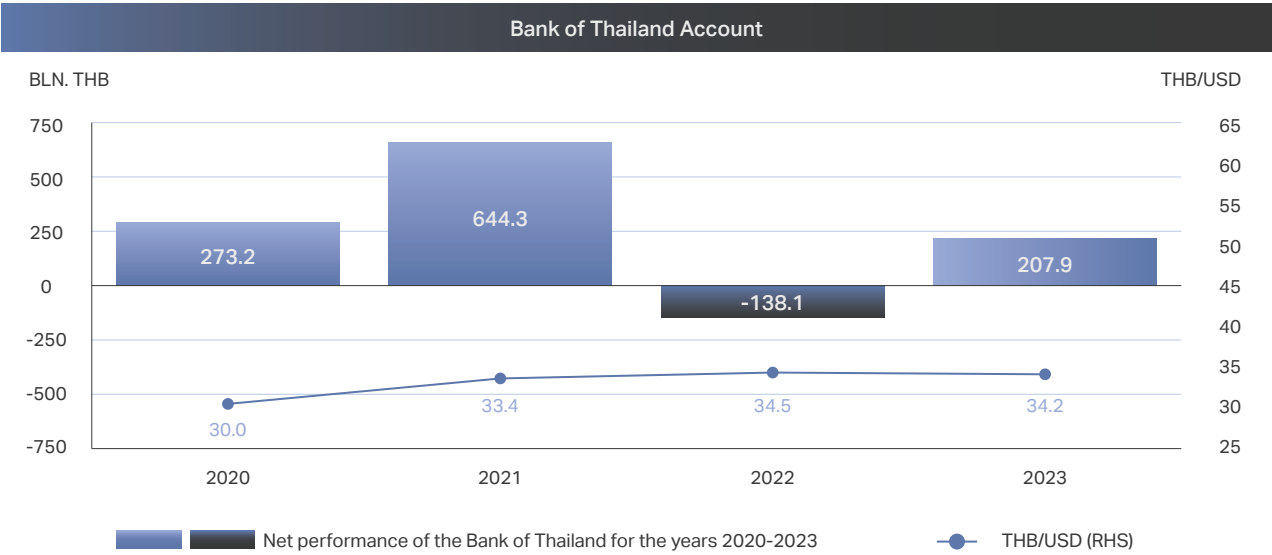
4 \ Pursuing profits is not the central bank's mission

The BOT is a non-profit organization whose mission is to safeguard economic and financial stability. Therefore, any profit or loss reflected in its financial statements is not indicative of its performance in fulfilling its mission. However, since the BOT implements policies for the benefit of the general public, it is well aware that it must exercise caution and consider the cost-effectiveness of its operations.

Losses in a central bank's financial statements are not uncommon. Such losses, however, do not compromise the bank's ability to achieve its central bank missions, so long as the central bank continues to implement policies that are justified and appropriate in maintaining the country's economic stability. Also, the central bank must earn the trust of all stakeholders, including the general public, businesses, as well as domestic and foreign investors. In the past, many central banks, such as Switzerland, Singapore, Australia, Israel, and Chile, have experienced financial losses. In the BOT's case, although past financial statement figures have shown losses in some years, the financial market and investors have remained confident in the BOT's operations.

Furthermore, the correlation between a country's economic conditions and the central bank's financial statements is often an inverse relationship. To illustrate, in years when the global financial markets rebound, emerging markets such as Thailand would face increased capital inflows. This, together with the Thai economy's robust and stable growth, would cause the Thai baht to appreciate, which, in turn, would lead to losses in the BOT's financial statements. Moreover, during years in which Thailand's economy had performed well, domestic interest rates on bills and bonds that were issued to safeguard economic stability are high. As a result, the BOT's interest expenses from issuing debt securities to maintain economic stability will be likely to surpass interest incomes from investment. Conversely, when economic growth is stalled due to headwinds such as the COVID-19 pandemic, or crises induced by other domestic factors such as political uncertainty, disasters, etc., the Thai baht would depreciate, leading to profits in the BOT's financial statements. Such profits, however, would not signify a healthy economy, nor would they benefit the people.

The BOT's annual financial performance for 2023



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In 2023, both the Bank of Thailand Account and the Currency Reserve Account recorded profits. This was primarily due to the net positive carry of the interest income from managing foreign reserve assets which surpassed the interest expense from monetary policy operations, gains from portfolio adjustments in reserve management in order to diversify risk appropriately with global economic and financial developments, and gains from the price revaluation of foreign assets that had increased in value at year-end. However, these two accounts have been affected by some losses from foreign exchange revaluation resulting from the Thai baht's appreciation relative to most major currencies.





BOX 9

Q&A

BOT's financial statements and international reserves



Why do the BOT's financial statements show profits in some years, and losses in some other years?



The BOT's annual profit or loss is mainly determined by changes in the valuation of foreign assets, due to a unique characteristic of the BOT's financial statements, in which its assets are mostly international reserves in foreign currencies (approximately 85 percent). At every year-end, these foreign assets must be revalued to Thai baht, resulting in a valuation gain or loss.

Hence, profits or losses in the financial statements do not impair the BOT's ability to deliver on its missions as a central bank, so long as it can continue to implement policies that are justified and appropriate in maintaining the country's economic stability and also, importantly, earns the confidence of all stakeholders involved.



If the BOT records a financial loss, would it impair its international reserve position?



The BOT's profits or losses each year are mostly a result of valuation gains or losses from revaluing assets in foreign currencies or "international reserves" into Thai baht. For example, if the BOT has 250 billion US dollars of foreign assets and the Thai baht depreciates by one baht, a valuation gain of 250 billion baht will be recorded. On the contrary, if the Thai baht appreciates by one baht, a valuation loss of 250 billion baht will also be recorded. In either case, the BOT's international reserves position remains unchanged at 250 billion US dollars.



The differences between the BOT's liabilities and the public debt



The liabilities of the BOT arise from its mission as a central bank. These consist of (1) printing an adequate quantity of banknotes to meet the needs of the economy, (2) issuing bonds to ensure an appropriate level of liquidity in the financial system, (3) deposits from financial institutions held at the BOT, and (4) government deposits held at the BOT.

Regarding public debt, the Public Debt Management Act, B.E. 2548 (2005) and its amendments define it as the debt incurred by the Ministry of Finance, a state agency or a state enterprise through borrowing as well as debt guaranteed by the Ministry of Finance. The public debt excludes the debt of state enterprises engaged in money lending business, asset management business or credit insurance business that is not guaranteed by the Ministry of Finance as well as the debt of the BOT.

Therefore, the BOT's liabilities are not counted as public debt.



How does Thailand's reserve management manage risks?



The BOT manages international reserve by taking into consideration three principles, namely (1) security, preserving the value of the international reserve, (2) liquidity, ensuring availability of liquid assets, (3) risk-adjusted return, achieving maximum returns under an acceptable level of risk. Therefore, the BOT's investments focus on (1) diversification – allocating international reserves to countries with strong economic and financial fundamentals in medium to long term to diversify risks and avoid concentration in specific group of countries, (2) future megatrends – considering major global trends and assessing relevant risks, and (3) appropriate investment tools – using variety of tools including financial derivatives to manage short- to medium-term volatilities in financial markets.

In addition, in terms of governance, the BOT emphasizes on check-and-balance mechanism between those who oversee risks and those who make investment decisions. There is also regular monitoring and evaluation of reserve management performance and risks to ensure that all investments are complied with risk guidelines and limits, covering (1) market risk, arising from changes in market prices that affect asset values, (2) credit risk, the possibility of loss due to a risk of default on a debt (3) liquidity risk, resulting from the inability to buy or sell financial assets at reasonable prices to acquire liquidity and (4) operational risk, caused by flawed or failed processes, systems or events that disrupt reserve operations.

For further information on the roles and responsibilities of the BOT, please refer to the article on the BOT's missions and financial statements (page 160).

The Bank of Thailand Board



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Chairman



**Mr. Sethaput
Suthiwartnarueput**
Deputy-Chairman



Mr. Ronadol Numnonda
Member



Mrs. Roong Mallikamas
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Mrs. Alisara Mahasandana
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Mr. Subhak Siwaraksa
Member



Miss Daungporn Rodpingsangkaha
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Mr. Abhichon Chandrasen
Assistant Secretary



Miss Visa Topothai
Assistant Secretary

The Bank of Thailand

Executives

as of December, 31 2023

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Assistant Governor,
Internal Audit Group

Mr. Ronadol Numnonda
Deputy Governor,
Financial Institutions Stability

Mr. Piti Disyatat
Assistant Governor,
Monetary Policy Group

Mrs. Roong Mallikamas
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Corporate Development

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Assistant Governor,
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Supervision Group

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Mrs. Vireka Suntapuntu
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