



BANK OF THAILAND

Annual Report

2016



Bank of Thailand
(1942-2017)



“Remember that you will have an important role to play and a huge responsibility to shoulder because your job concerns every person. It is extremely critical for the country’s economy as well as governance... Therefore, you must always be cautious... and try to use your knowledge, skills, vigilance and prudence, together with your wholehearted honesty in performing your duties.”⁽¹⁾

⁽¹⁾ His Majesty the Late King’s royal address at the opening ceremony of the Bank of Thailand Note Printing Works on 24 June 1969



The Bank of Thailand Board, management and staff humbly reminisced His Majesty King Bhumibol Adulyadej's royal grace and legacies in bringing peace and happiness to the Thai people. His Majesty the Late King was the guiding light and source of inspiration for all areas of the nation's development throughout the past 70 years.



History brings clarity to
vision of the future



Mission

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

Vision

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

Values

Principles Visions Collaboration Humility



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Message from the Chairman of the Bank of Thailand Board



In 2016, the entire nation mourned the passing of our beloved His Majesty King Bhumibol Adulyadej. The Bank of Thailand (BOT) Board members, management and staff, humbly join the whole nation in expressing our deepest condolences and utmost

gratitude to His Majesty the Late King. We also pledge to continue conducting our lives and duties in accordance with His Majesty King Maha Vajiralongkorn Bodindradebayavarangkun's royal address on the occasion of His Majesty's accession to the throne, to build on the work and aspiration of His Majesty the Late King, for the benefit and happiness of all Thais.

On the economic front, 2016 was filled with numerous risks from both internal and external factors. Nonetheless, the economy achieved a stable growth overall. Looking ahead, the global environment would continue to change rapidly owing to technological developments while uncertainties in the global geo-politics and economics would likely rise. At home, the situation of low economic potential that owed to a prolonged investment drag prevailed. These factors remained the key threats that could affect Thailand's economic and financial stability in the upcoming periods.

The Bank of Thailand Board (BOT Board) recognized the pressing need to create a stable economic and financial environment and develop the Thai financial system in support of a sustainable and inclusive economic growth, along with the country's progression towards the digital economy as well as to respond to volatilities and developments in the global economic and financial landscape. In this regard, the BOT Board, in collaboration with three policy committees, namely the Monetary Policy Committee, the Financial Institutions Policy Committee and the Payment Systems Committee, had formulated the BOT 3-Year Strategic Plan for 2017 - 2019. The

plan aims to guide and set directions of the BOT's economic policy implementation aligning and responsive to upcoming challenges. The Boards also approved a restructuring of the organization to enhance its efficiency in responding to future missions and challenges, thereby leading to an effective implementation of the 3-Year Strategic Plan.

In addition, the BOT Board supported revisions of the Bank of Thailand Act which would allow the BOT's operations to become more efficient. These revisions included 1) more flexibility in BOT asset management, to be inclusive of investment in foreign equity securities issued by a foreign juristic person; 2) payment systems stability and empowerment of the BOT to supervise Specialized Financial Institutions; and 3) setting up of a regime to assist financial institutions in case of financial crisis which could affect economic and financial stability, and an expansion of the Financial Institutions Development Fund's roles and responsibilities on financial institution resolution to ensure transparency and clarity.

The BOT Board also supported efforts to improve other relevant operations, including 1) adjustment in the international reserve management framework to be more efficient and rigorous in risk management as well as to step up the efficiency in liquidity management and safeguard of financial market stability; 2) implementation of foreign policies by expanding the scope of international cooperation to offer development assistance to neighbouring countries and enhance Thailand's role as a provider of assistance at the global level; and 3) promotion of good governance within the organization.

Finally, I wish to thank the BOT Board members, management and staff, for your tireless effort and dedication throughout 2016, which resulted in the efficiency and effectiveness in the BOT's operations as well as the smooth and seamless collaboration with the public and private sectors, along with other institutions and organizations, thus contributing towards a stable, sustainable and inclusive economic growth.



Mr. Ampon Kittiampon

Chairman of the Bank of Thailand Board

Message from the Governor of the Bank of Thailand



The year 2016 will always be remembered by the Thai people as we grieved the passing of His Majesty King Bhumibol Adulyadej - a momentous loss to the whole nation. The BOT management and staff humbly join the Thais in reminiscing His Majesty the Late King's royal grace and legacies. In carrying on our duties as good central bankers, we take to our hearts His Majesty the Late King's royal address on the occasion of the opening ceremony of the BOT Note Printing Works, an excerpt of which is as follows.

"Remember that you will have an important role to play and a huge responsibility to shoulder because your job concerns every person. It is extremely critical for the country's economy as well as governance... Therefore, you must always be cautious... and try to use your knowledge, skills, vigilance and prudence, together with your wholehearted honesty in performing your duties.

In 2016, the Thai economy, once again, encountered challenges from many fronts, particularly stemming from external factors. These ranged from the sharp fall in China's stock exchange at the beginning of the year, to the Bank of Japan's negative interest rate policy, Brexit, the unexpected result of the US presidential election at the end of the year, and the Federal Reserve's interest rate hike. Moreover, a severe drought crisis also hit the country this year. All these events led to continued volatility in capital flows and exchange rates of emerging economies, including Thailand. Nonetheless, despite various challenges in 2016, the Thai economy was still able to grow uninterrupted while maintaining stability amid rising challenges.

The BOT, as the country's central bank, performed its duties in four key areas.

1. Monetary Policy In maintaining price stability and ensuring that financial conditions were conducive to the Thai economic recovery, the Monetary Policy Committee adopted an accommodative monetary policy stance by maintaining the policy interest rate at 1.50 percent per annum throughout the year. Headline inflation, which was previously below the target, returned to be within the target in December 2016, as expected. Despite a highly volatile exchange rate in line with the global financial market and capital market conditions, volatility level was considered relatively low compared to other countries in the region. Moreover, the BOT stepped up its research and analysis efforts in the areas of monetary policy and structural changes in the Thai economy. A Financial Stability Unit (FSU) was also established to serve as a centre for systemic risk assessment and inter-agency cooperation to integrate efforts and enhance the efficiency in safeguarding Thailand's financial stability.


⁽²⁾ His Majesty the Late King's royal address at the opening ceremony of the Bank of Thailand Note Printing Works on 24 June 1969

2. Financial Institutions System The BOT remained committed to strengthening and promoting greater competition in the financial institutions system. In particular, efforts were focused on fostering competition through new financial innovations and enhancing the efficiency of Thai financial institutions in line with the Financial Sector Master Plan Phase III (2016 – 2020) which attaches importance on digitalization and capacity-building for management of cyber risk and cyber security in response to the trend in digital banking, thus continually boosting user's confidence. The BOT also enhanced its effort on financial institution supervision and examination to ensure that services match the needs of customers, thus enabling financial service users to access appropriate and equitable services that cater to their requirements. To ensure that supervision of Specialized Financial Institutions (SFIs) is as efficient as in the case of commercial banks, the BOT issued regulations on SFI supervision, comprising six key areas; namely governance, capital requirement, liquid assets maintenance, loan approval process, single lending limit, and standard of accounting and disclosure. Moreover, the BOT is in the process of expanding the SME credit information database to be inclusive of SFIs, thereby enhancing the efficiency of SME credit approval, system-wide.

3. Payment Systems The BOT was committed to developing the country's payment systems to be more stable, secure and efficient. Two key projects under the National e-Payment Master Plan were implemented. First, PromptPay which represents a national payment system infrastructural development to ensure convenient, prompt and low-cost inter-bank funds transfer. The Government-to-Citizen (G2C) service was launched at the end of 2016 and Citizen-to-Citizen (C2C) in January 2017. Second, widening nation-wide usage of debit cards. Furthermore, the BOT had encouraged commercial banks to replace magnetic debit and ATM cards with chip cards to increase security and consumer confidence. The BOT also had enhanced the efficiency of the Bank of Thailand Automated High-value Transfer Network (BAHTNET) and the Imaged Cheque Clearing and Archive System (ICAS), so as to offer people with services that are faster, more efficient and secured.

4. Banknote Management In addition to ensuring adequate currency in circulation; in 2016, the BOT issued commemorative banknotes in celebration of two important occasions, namely the 70th Anniversary of His Majesty King Bhumibol Adulyadej's Accession to the Throne and the 7th Cycle Birthday Anniversary of Her Majesty Queen Sirikit. For efficiency enhancement, research and development was undertaken on a variety of topics; for instance, forgery prevention, productivity improvement, environmental conservation and development of a barcode system as an alternative solution for banknote storage and monitoring.

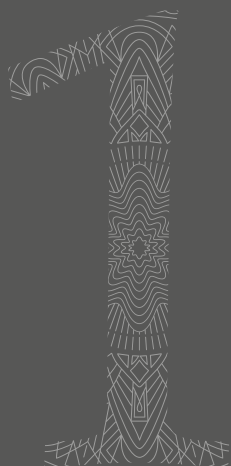
Looking ahead, it can be seen that the global economic and financial environment would likely encounter high Volatility, Uncertainty, Complexity and Ambiguity (VUCA), stemming in part from structural problems and the continuously fragile global economic recovery. Meanwhile, the Thai economy needs to adjust in order to enhance competitiveness, reduce inequality and household debt, and prepare for the aging society and digital economy. Therefore, the BOT had drawn up the 3-Year Strategic Plan 2019 – 2017, setting the direction for operations over the next three years. The plan comprises three key areas (1) Economic and Financial Stability, (2) Inclusive, Sustainable and Equitable Economic and Financial Development and (3) Internal Excellence, and serves as a foundation for the BOT in efficiently fulfilling its missions which are becoming increasingly difficult and challenging, thereby contributing towards "Thailand's sustainable economic well-being."


Mr. Veerathai Santiprabhob
Governor, Bank of Thailand

⁽³⁾ The BOT 3-Year Strategic Plan can be downloaded from www.bot.or.th/Thai/Pages/3YearsStrategicPlan.aspx







Executive Summary





Executive Summary¹

The year 2016 will always be remembered by the Thai people for the passing of His Majesty King Bhumibol Adulyadej. The Bank of Thailand (BOT) humbly joins the nation in reminiscing His Majesty's royal grace and legacies. We also wish to convey our deepest gratitude for His Majesty King Maha Vajiralongkorn Bodindradebayavarangkun's benevolence towards the people. We are committed to ensuring that the Thai economic and financial system prospers with stability and soundness, thus contributing towards Thailand's sustainable economic well-being.

¹ The Bank of Thailand Annual Report 2016 is prepared and submitted to the Bank of Thailand Board, to serve as the report of the Bank of Thailand Board to the Minister of Finance in accordance with Section 57 paragraph two of the Bank of Thailand Act. The report outlines results of the BOT's operations in the previous year along with the Audit Committee, auditor's report and financial statements as of 31 December 2016. According to Section 25 of the Bank of Thailand Act, the Bank of Thailand Board is authorized to oversee the BOT's overall activities and operations to achieve the objectives set forth in Section 7. An exception is made for activities and operations of the Monetary Policy Committee (MPC), the Financial Institutions Policy Committee (FIPC) and the Payment Systems Committee (PSC).

Economic and Financial Development

In 2016, the economy continued to grow, expanding by 3.2 percent higher than the previous year's growth of 2.8 percent. However, it was also the year that the Thai economy and financial market encountered challenges from several fronts, particularly from external factors. These included a sluggish recovery in major trading partners' economies, structural change in global trade landscape, continued slump in commodity prices, uncertain and varied monetary policy directions of major economies, economic and financial risk in China, financial sector problem in the Euro area, Brexit and the US presidential election result. Furthermore, domestic factors prevailed, for instance, a widespread impact on the agricultural sector from the severe drought, structural problem in the economy and subdued private investment. Looking ahead, these challenges, especially external ones, would likely remain with a trend to escalate.

Therefore, to respond to challenges from the above factors which could affect the private sector and general public, the BOT conducted activities in various areas to ensure economic and financial soundness and stability conducive to economic recovery, and drive Thailand's financial system development, thereby supporting sustainable and inclusive growth of the Thai economy. At the same time the BOT also focused on improving the efficiency of its operations and restructuring the organization to better respond to future missions and challenges. These efforts are summarized below.

Monetary Policy

The BOT conducted accommodative monetary policy to maintain price stability and ensure a conducive financial condition to support Thailand's economic recovery. The Monetary Policy Committee (MPC) maintained the policy interest rate at 1.50 percent

per annum throughout 2016. The annual average headline inflation rate stood at 0.19 percent, below the target for monetary policy, due to a supply-side factor, namely low domestic energy price which more or less followed global crude oil price. However, towards the end of the year, headline inflation increased and returned to be within the inflation target in December 2016. As for 2017, the annual average headline inflation target of 2.5 ± 1.5 percent was approved by the Cabinet to be the medium-term target for monetary policy, unchanged from last year. Despite high exchange rate volatility owing to the global financial and capital markets, overall volatility was considered to be low compared to other countries in the region. Moreover, the BOT established the "Financial Stability Unit" (FSU) to serve as a centre for systemic risk assessment and inter-agency cooperation to integrate efforts and enhance the efficiency in safeguarding Thailand's financial stability.

Financial Institutions

The BOT remained committed to strengthening and promoting greater competition in the financial institutions system. In particular, efforts were focused on fostering competition through new financial innovations, enhancing the efficiency of Thai financial institutions in line with the Financial Sector Master Plan Phase III, and capacity-building for cyber security management to strengthen confidence for users in response to the trend in digital banking. In addition, the BOT focused on improving risk management and supervision, and ensuring stability of financial institutions and Specialized Financial Institutions (SFIs) consistent with international standards. These included, for example, onsite examination and risk assessment for Significant Activities (SA) and Information Technology (IT), financial institutions strategies and operation management, special examination, analysis and monitoring and request for commercial banks to



conduct supervisory stress test. A notification to govern peer-to-peer lending was also drafted to support financial access by businesses and expand investment alternatives. Moreover, the BOT prepared to participate in the Financial Sector Assessment Program (FSAP), to be jointly conducted by the International Monetary Fund (IMF) and the World Bank. Some regulations were revised to support financial technology development and the fast-changing financial business model. The BOT also supported SME businesses by developing an SME credit information database for commercial banks to use in planning credit approval, thereby increasing SMEs' financial access opportunity.

Payment Systems

The BOT is committed to maintaining payment systems stability and promoting payment systems development by utilizing technology to enhance efficiency, reduce transaction cost and increase opportunity for people to access financial services more conveniently, in accordance with the National e-Payment Master Plan. Under this Master Plan, e-Payment is promoted in an integrated and holistic manner, inclusive of the public sector, private sector and general public through

PromptPay, under which the Government-to-Citizen (G2C) service has been launched in January 2017. Furthermore, magnetic debit cards and ATM cards were replaced with chip cards to enhance security and consumer confidence. The BOT, in collaboration with the Office of The National Broadcasting and Telecommunications Commission (NBTC), stepped up the security of mobile payment by prescribing standards on the identification process for telecommunications service providers in case customers request for new SIM cards. Payment systems supervision was also improved to be more aligned with the IMF's Principles for Financial Market Infrastructures (PFMIs).

Other Operational Improvements and Efficiency Enhancements

The strategies for organization risk management in relation to international reserve management were adjusted by revising the Reserve Management Framework and Governance Structure to enhance reserve management efficiency; pushing for a revision to the Bank of Thailand Act to allow for investment in equity instruments (which was approved by the National Legislative Assembly); developing a model to assess structural changes in invested assets and countries; and expanding investment in new assets that can be managed by the BOT alone as well as external fund managers. The BOT also ensured domestic financial market liquidity, stability and efficiency through the use of four key instruments; namely BOT bond issuance, bilateral repurchase transaction, foreign exchange swap and trading of government bond. In addition, the BOT collaborated in an effort to prescribe standards for certifying the qualifications of persons who directly trade or conduct financial and foreign exchange transactions in order to strengthen knowledge on financial market development.

Banknote Issuance and Management

The BOT ensured that there was sufficient



currency in circulation within the economy. Moreover, the BOT issued commemorative banknotes in celebration of two important occasions, namely the 70th Anniversary of His Majesty King Bhumibol Adulyadej's Accession to the Throne and the 7th Cycle Birthday Anniversary of Her Majesty Queen Sirikit. For efficiency enhancement, research and development was undertaken on a variety of topics; for instance, forgery prevention, ink improvement, alternative raw materials, productivity improvement, resource and environmental conservation, efficiency and effectiveness of currency in circulation, development of a barcode system as an alternative solution for banknote storage and monitoring and proactive communication planning to promote knowledge about banknotes among the general public and other organizations through online and mass media.

Consumer Protection

The BOT recognized its role in ensuring fairness and protection for consumers through supervising financial institutions' market conduct, handling complaints and protecting consumers in case of problem or dispute in using financial services. Furthermore, the BOT promoted financial literacy in order to protect financial service users and provided knowledge to people on financial management, new financial development and increasingly diverse forms of financial threats.

International Economic and Financial Cooperation

The BOT expanded its scope of international cooperation to provide development assistance to the neighbouring countries and strengthen Thailand's role at the international level. Bilateral cooperation mechanisms were also developed to reduce obstacles and risks associated with foreign investment. For example, a memorandum of understanding on the promotion of local currency for international trade and investment settlement with Bank Indonesia which would support the private sector's use of rupiah and baht as settlement currencies for trade and investment between the two countries, and regular policy dialogues with central bank representatives at the global, regional and bilateral levels, to jointly assess current economic condition and discuss plans to respond to the impact of global economic and financial volatility.

Regional Economic and Financial Operations

For regional operations, the BOT has three offices in charge of the north, north-eastern and south regions, respectively. These offices support the mandate of economic and financial stability by : monitoring regional economic condition; studying and conducting field survey to gather in-depth facts on the economy, financial sector and key businesses in the region; supervising financial institutions; controlling foreign exchange; promoting financial literacy and financial

management to households; handling complaints from financial service users; coordinating with public and private organizations in the region; and networking with neighbouring countries.

Policy Research Enhancement and Preparing for Change

The BOT increased its number of domestic and international academic partners to expand knowledge on a variety of topics, including monetary policy, financial system and the real economy. It also provided ongoing support for research scholarships in order to use the information and findings in improving the lives and well-being of people. The BOT also focused on using different types of in-depth information to ensure a more comprehensive analysis of economic condition, thereby allowing the conduct of policies to be in line with dynamics in the economy. Moreover, the BOT expanded its database by establishing linkages with government agencies and modernized its IT system to prepare for the use of technology in data storage and analysis as well as cater for complex IT risks.

Going forward, the BOT has formulated a 3-Year Strategic Plan for 2017 - 2019 in response to challenges arising from Volatility, Uncertainty, Complexity and Ambiguity (VUCA) in the global economic and financial system, along with structural problems inherent in the Thai economy, for example, a decline in competitiveness, inequality and household debt. The plan also addresses preparation for the aging society and digital economy.

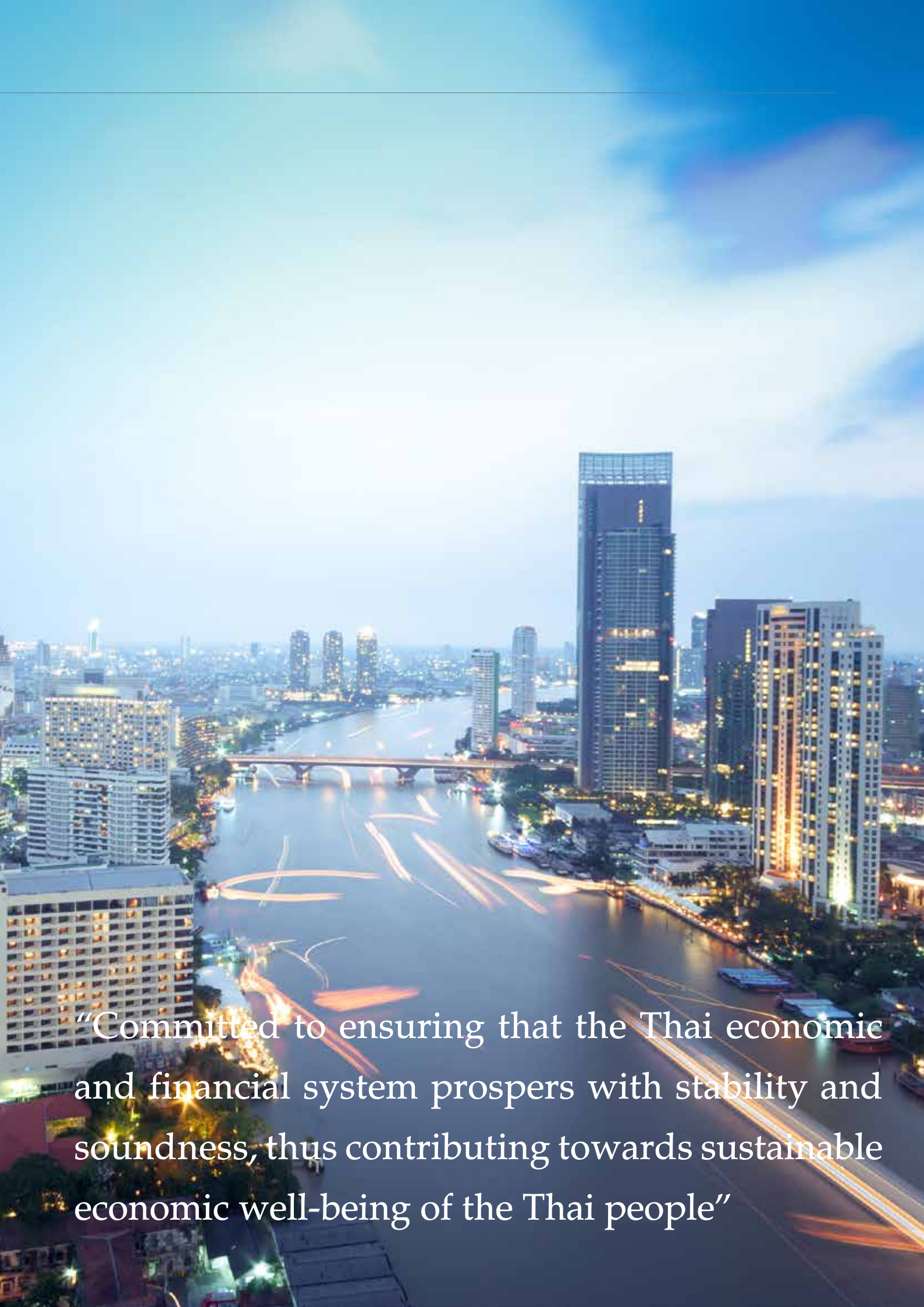
The 3-Year Strategic Plan consists of three key dimensions as follows.

Stability - Risk monitoring and assessment capacity will be strengthened alongside preparation of policy tools for timely use. The efficiency of foreign

exchange market mechanism will be enhanced through a revision in exchange control rules and regulations. In addition, the BOT will spearhead efforts to efficiently safeguard financial stability jointly with other organizations and strengthen financial institutions supervision to be able to appropriately respond to new forms of risks without impeding financial development and innovation.

Development - To ensure that financial access is more economical, inclusive and equitable, the BOT will promote greater competition among service providers, encourage innovation and one-stop-service digital banking, support niche players to reduce financial access gap, drive a development of central financial infrastructure for shared usage and develop an SME database to facilitate credit granting without the need to solely rely on collateral, for instance. Moreover, the BOT will promote more efficient international financial connectivity, thus enabling the private sector to conduct transactions more conveniently at a lower cost. Finally, its financial supervisory role will be stepped up to ensure fair market conduct and systematically promote financial discipline.

Internal Excellence - Efforts will comprise a promotion of in-depth data analytics; creation of research based on full utilization of data; organizational restructuring to support an effective and efficient implementation of the 3-Year Strategic Plan and capacity building at the individual and institutional levels in tandem with the new and challenging mission; and promotion of stakeholders engagement through greater attention to feedback, knowledge sharing and confidence building in relation to the BOT's policies. All in all, these efforts aim to create a stable economic and financial environment, ensure inclusive development and drive progress that meets Thailand's needs, thereby contributing to the country's economic well-being of the people.

An aerial night photograph of Bangkok, Thailand, featuring the Chao Phraya River. The river is illuminated with light trails from boats, and the surrounding city skyline is visible with numerous lit-up buildings. A prominent bridge spans the river in the middle ground. The sky is a deep blue with some clouds.

“Committed to ensuring that the Thai economic and financial system prospers with stability and soundness, thus contributing towards sustainable economic well-being of the Thai people”





- Overall achievements and corporate governance of the Bank of Thailand Board
- The BOT 3-Year Strategic Plan 2017 - 2019
- Overall achievements in 2016
- Organizational structure, work system and process
- Corporate governance and risk management

Overall achievements and corporate governance of the Bank of Thailand Board

The Bank of Thailand Annual Report 2016 is prepared and submitted to the Bank of Thailand Board, to serve as the report of the Bank of Thailand Board to the Minister of Finance in accordance with Section 57 paragraph two of the Bank of Thailand Act. The report outlines results of the BOT's operations in the previous year along with the Audit Committee, auditor's report and financial statements as of 31 December 2016. According to Section 25 of the Bank of Thailand Act, the Bank of Thailand Board is authorized to oversee the BOT's overall activities and operations to achieve the objectives set forth in Section 7. An exception is made for activities and operations of the Monetary Policy Committee (MPC), the Financial Institutions Policy Committee (FIPC) and the Payment Systems Committee (PSC).

In 2016, the BOT recognized that challenges for policy implementation in the upcoming periods stemming from both external factors which are highly volatile and fast-changing, and internal factors which call for economic and financial competitiveness enhancement together with stakeholders' expectation of the BOT. Therefore, in preparing to respond efficiently and effectively to future challenges, the BOT Board played an important part in setting the directions of the BOT 3-Year Strategic Plan 2017 – 2019, pushed for legislative revisions to enable the BOT's operations to be efficient and in line with the current mission which has changed in accordance with the economic and social contexts, ensured that official reserve management was efficient and supportive of foreign policy implementation, and promoted good governance within the organization. In addition, the BOT Board also supported the BOT in preparing its organizational structure to be conducive for driving the implementation of the BOT 3-Year Strategic Plan. The key achievements of the BOT Board in 2016 can be summarized below.



1. Formulation of the BOT 3-Year Strategic Plan 2017 - 2019

The BOT Board, in collaboration with three policy committees, namely the Monetary Policy Committee (MPC), the Financial Institutions Policy Committee (FIPC) and the Payment Systems Committee (PSC), set the directions for the BOT 3-Year Strategic Plan 2017 - 2019. The Board provided comments, recommendations and views which were useful in formulating the plan to respond to key challenges in the periods ahead. In this regard, the Board and committees participated in a strategic workshop and reached a 12-point conclusion for the strategic plan as well as approved the BOT 3-Year Strategic Plan 2017 - 2019. The plan comprises three key areas (1) Stability; (2) Development; and (3) Internal Excellence. **On Stability**, focus will be on monitoring and surveillance of new forms of risks or risks on the rising trend; preparing for safeguard and immediate response; appropriate risk management that does not impede financial development and innovation; and stepping up the BOT's role in supply-side analysis to support the structural change in the country's economic and financial landscape. **On Development**, focus will be on supporting competition; promoting innovation and an integrated use of IT to reduce system cost, facilitate the economic and financial system's adaptation towards the digital economy and promote players and products which respond to the country's development needs; strengthening international financial connectivity; and promoting inclusive and equitable financial access, along with sustainable development. **On Internal Excellence**, focus will be on promoting in-depth data analytics and creating research based on full utilization of data to generate new knowledge that will be beneficial for the BOT's policy implementation and responsive to relevant areas of country's development needs; stepping up personnel capacity to ensure high capabilities, multi-disciplinary skill sets and commitment to outcome; strengthening institutional capacity to ensure agile

and modern operations; and promoting stakeholders engagement through greater attention to feedback, knowledge sharing and confidence building in relation to the BOT's policies.

2. Support for legislative revisions in areas concerning the BOT's operations

In 2016, the BOT Board continued to support and push for legislative revisions in areas concerning the BOT's operations. The BOT has been proposing for these legislative revisions since 2015 as they would allow its operations to be more efficient and responsive to the current mission. In this regard, the draft **Bank of Thailand Act (BOT Act) which incorporates an expansion in its investment to include equity instruments issued by foreign juristic persons**, was approved by the National Legislative Assembly on 25 November 2016 (published in the Royal Gazette on 24 January 2017, to come into force on the following day).

Additionally, three other legislations concerning the BOT's operations are being considered by the Cabinet and the Ministry of Finance, including (1) **Payment Systems Act**, which would increase the efficiency in payment systems supervision by facilitating infrastructural development and encouraging payment service providers to efficiently cater for the needs of the public and private sectors along with the general public; (2) **Amendment to the Financial Institutions Business Act**, which would empower the BOT to supervise Specialized Financial Institutions (SFIs) as assigned by the Cabinet; and (3) **Amendment to the Bank of Thailand Act (No.4) B.E. 2551 to address financial institution resolution in case of a financial crisis (to replace the Transitory Provision Section 19 of the BOT Act (No.4) B.E. 2551 which has expired)**, which would ensure a regime for financial institution resolution in case of a financial crisis in place of the one under the Financial Institution Development Fund that was concluded in 2015.

3. Increase in the efficiency of official reserve management

Given the rapidly-changing global economic and financial environment, the BOT Board focused on restructuring the official reserve management. In 2016, the BOT Board supported a restructuring in international reserve management by ensuring appropriate liquidity management, tighter mechanism for investment risk management, for example, setting risk limits and adjusting the tools for investment risk control, and prescribing investment in China as part of the official reserve in line with the International Monetary Fund (IMF)'s announcement of the Renminbi as an SDR currency. In this connection, the BOT Board would closely monitor the situation and various developments to ascertain that the decision-making process for key issues can proceed without delay.

4. Support for foreign policy implementation

The BOT Board supported the BOT in strengthening economic and financial linkages with CLMV countries (Cambodia, Lao PDR, Myanmar and Vietnam) through the office of the Technical Assistance Office for the Lao PDR and the Republic of the Union of Myanmar (TAOLAM), located at the BOT. In this regard, the BOT Board supported the expansion of TAOLAM's roles in other CLMV countries. The BOT Board also backed the BOT's policy to promote Thailand as a financial hub for CLMV in order to boost regional trade and investment.

Moreover, the BOT Board supported the enhancement of Thailand's role at the global level, especially through the promotion of international cooperation to provide technical assistance to other countries. For 2016, the BOT Board approved an increase in the contribution to the IMF in a form of bilateral borrowing to elevate Thailand's participation in responding to or resolving the global economic crisis through an international, in addition to its usual monetary contributions; for example, Quota and New Arrangements to Borrow (NAB).

5. Organizational restructuring to cater for the upcoming implementation of the BOT 3-Year Strategic Plan and future challenges

To prepare for challenges, the fast-changing environment and the National Strategic Plan, in 2016, the BOT Board approved an organizational restructuring to better support the expansion in mission and align with the BOT strategic plan implementation in future periods. Two groups were set up, namely the Corporate Strategy and Relations Group to drive implementation of corporate strategies and international cooperation, and the Payment Systems Policy and Financial Technology Group to lead efforts on payment systems policies and financial technology. In addition, two departments were created, including the Financial Consumer Protection and Market Conduct Department and the Financial Technology Department to oversee consumer protection activities and analysis and monitoring of new products and financial technology innovations, respectively. Moreover, units with similar skill sets were integrated under the same department to enable the BOT's operations to be more proactive and focused.

6. Promotion of good governance within the organization

The BOT Board emphasized the promotion of good governance within the organization through the Good Governance and Appeal Committee which has a duty to ensure that the BOT's systems and operations are appropriate for good governance principles for central banks. In 2016, key activities included assigning responsible persons for good governance function. At present, the Committee's working group is in the process of studying international good governance principles which will be applied in formulating the BOT's good governance framework.

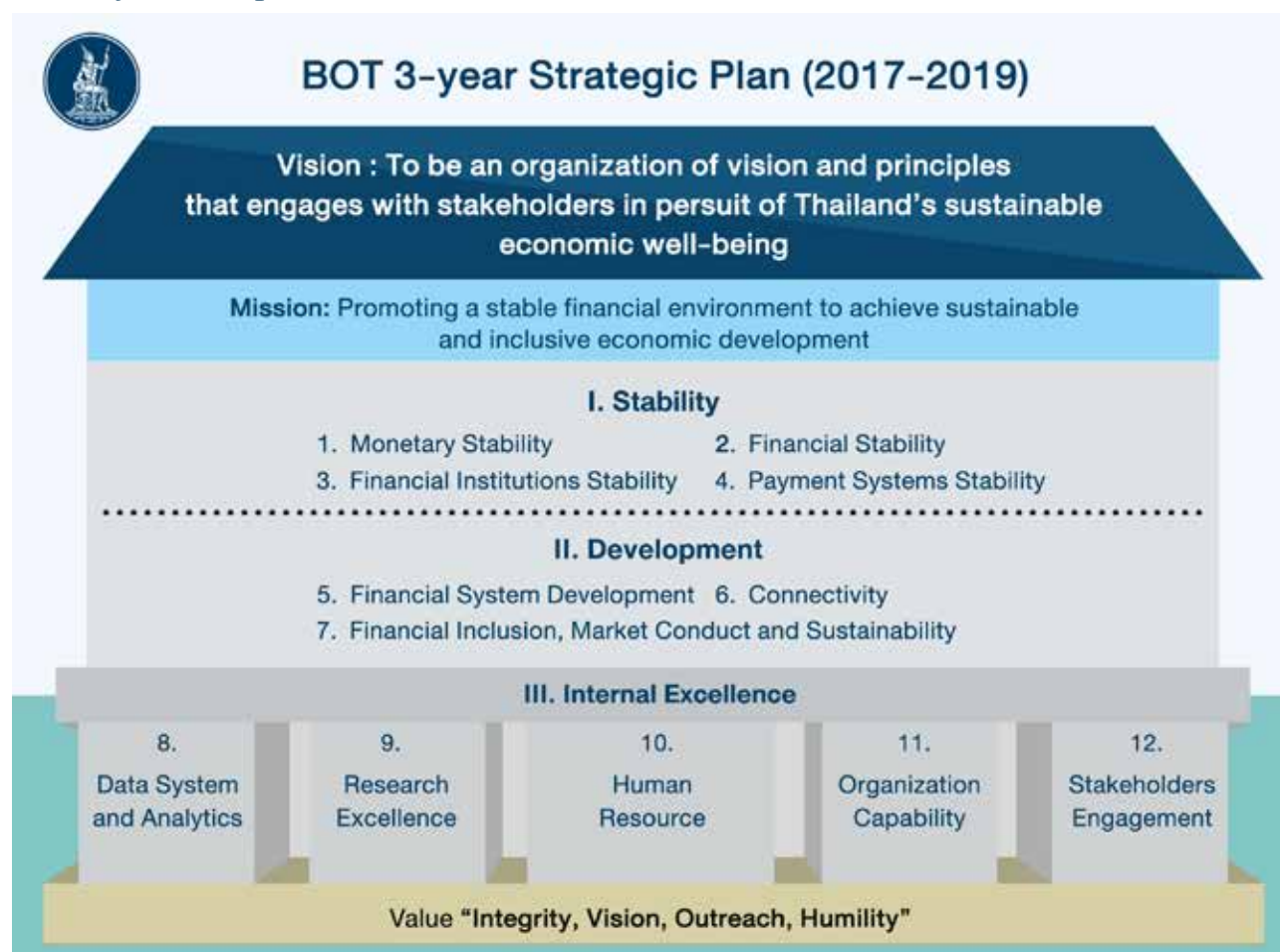


Directions for the BOT 3-Year Strategic Plan 2017 - 2019

Laying the foundations
to promote Thailand's
sustainable economic well-being

The Bank of Thailand's 3-Year Strategic Plan (2017-2019)

The BOT 3-year Strategic Plan comprises of 12 strategies, grouped into three dimensions: Stability, Development, and Internal Excellence.



Stability

Stability of the economy and the financial system is the BOT's core mandate. In addition, the BOT aims to also enhance its role in the support of supply-side structural reform of the economy. Stability strategy includes the following.

1. Monetary stability

Maintaining monetary stability requires an understanding of changes in underlying economic relationships, and preparedness for rapid changes in

the environment. Strategic direction includes an **upgrade of economic analyses to ensure foresightedness, and a thorough understanding of economic situations.** Key initiatives in this regards involves: the emphasis on ground-truth intelligence; development of data analytics tools, and the upgrade of macroeconomic models to systematically incorporate financial sector linkages. An emphasis will also be on the readiness of **monetary policy toolkit for effective use** in response to changes in economic environment,

e.g. changes in transmission mechanisms. At the same time, **structural adjustments in the economy** must be pursued concurrently. The BOT will help foster an environment that is in support of structural adjustments through the promotion of FX market efficiency to enhance risk management in the economy. For example, exchange control regulations is being reviewed and streamlined, and greater SME's access to a variety of FX hedging instruments will be promoted.

2. Financial stability

Systemic risk is increasing in the interconnected environment. The BOT will pursue a three-pronged approach. First, ***“Forward looking and integrated risk assessment”*** : Monitoring and surveillance of risks to financial stability will be enhanced, with feedback loops between the financial sector and the real sector taken into account through a greater use of data and enhanced tools, as well as scenario planning techniques to prepare for unexpected events in the increasingly uncertain environment. Stress tests will be conducted jointly with other regulators. ***Second, “Effective macroprudential policy implementation”*** : Macroprudential tools will be ready for effective use, with a comprehensive framework to evaluate their side effects and limitations. The procedure for policy implementation as well as internal and external coordination process will be enhanced. Third, ***“Preserving national financial stability”*** : National financial stability framework will be appropriately reviewed. Resolution plans and simulation exercises for the financial sector will be prepared and regularly updated.

3. Financial institutions stability

The supervision of financial institutions needs to be ready for new forms of risks, both those from the increasingly interconnected global economy, and from the rapid evolution in technology. Such supervision,

however, should not be obstacles to new financial development and innovations. Going forward, the direction would be to **increase supervisory dimensions**: ongoing supervision with more emphasis on off-site monitoring, under the changing environment; evaluation of behavior and organizational culture of commercial banks and Specialized Financial Institutions (SFIs), in order to understand their underlying business motives; preparation of the financial sector to deal with **IT risks and cyber threats**, through upgraded security standards for those under BOT supervision and coordination with relevant entities to create an ecosystem that will foster collaborations on cyber security issues such as joint HR development in this area. **Collaborations with other regulators both domestic and international** in various key areas will be enhanced, including **the preparation of the Thai financial sector to enter Financial Sector Assessment Program (FSAP)**.

4. Payment system stability

Payment systems play a key role in supporting smooth operations of the economy and financial system. The BOT thus places a great emphasis on the **enhancement of the security and efficiency of the payment system infrastructures**, to ensure their uninterrupted operations. Payment system supervision role will also be enhanced in line with **the upcoming Payment Systems Act**. This involves a greater supervision coverage, consistent with the new environment where payment service and technology are developing rapidly, with domestic players as well as those from overseas. A focus will also be given to **the supervision of the fast-growing mobile payments**, in order to ensure secured, credible, and fair services for the users. International standards on payment systems and security supervision will be adopted. The management of payment system data will also be effectively utilized for supervision and policy decisions under the transition towards digital economy.



Development

To help promote sustainable and inclusive development of the Thai economy and financial sector, the BOT will place a greater emphasis on fostering competition, innovation, and the use of technology to help reduce costs in the financial system and support the transition towards digital economy. A financial ecosystem with players and products that help meet the country's development needs will also be promoted. At the same time, cross-border financial connectivity will be encouraged, both from Thailand to abroad, and where Thailand is used as a base by non-residents. Market conduct with regards to financial services will be enhanced, to help protect the rights of financial consumers. Financial discipline will also be systematically promoted.

5. Financial system development

The financial system needs to be constantly improved to meet technological advancements and the variety of consumer demand. The BOT aims to

promote **competition, innovation, and digital banking services** among financial service providers (including FinTech) in order to **raise efficiency and reduce costs in the system**. The promotion will be implemented through policy directives, regulations, and work processes that are in support of new development and innovations. **Open infrastructures and interoperability** will also be strengthened e.g. the PromptPay system, to help reduce costs in the economy. For SMEs, which play an important role in the Thai economic development, the BOT aims to foster an ecosystem that provides better financial access, e.g. through the improvement of a database system that support information-based lending. In addition, the BOT will support the development of **financial products and human resource that help meet the needs and challenges of the country**, for example, financial products for ageing society, and human resource in key areas, (e.g. cyber security and FinTech).

6. Connectivity

To help Thailand better connect with fast growing regional economies, particularly Cambodia, Laos, Myanmar, and Vietnam (CLMV), the BOT aims to formulate a more **proactive CLMV Connectivity Strategy**. Rules and regulations will be reviewed to help reduce obstacles and strengthen connectivity. The BOT will also promote more convenient and cheaper financial transactions between Thailand and CLMV, for example, through retail payments infrastructure connectivity, as well as cooperation with CLMV to reduce payment obstacles and promote the use of local currencies. At the same time, to ensure effectiveness, consistent goals of private and public sector parties will be aligned through coordination in various forums, and CLMV networking outside the central bank circle will be expanded. Furthermore, **regional presence of commercial banks will be encouraged to expand and to be better utilized**. The BOT will also focus in deepening **knowledge of rules and regulations, policies, and economic structures of China and India**, in order to further expand the connectivity.

7. Financial Inclusion, Market Conduct, and Sustainability:

The BOT aims to promote **an ecosystem and infrastructures that support savings and financial discipline**, such as financial products that support access to basic financial services and savings for the aging society. **Promotion of financial literacy will be enhanced to foster financial discipline. Responsible lending among financial institutions will be promoted along with debt management programs** to help advise and resolve problems for retail debtors. **The BOT will tighten its supervision of financial institutions with regards to their market conduct, and urge them to upgrade their own standards in this area**. The BOT will also collaborate with strategic partners to make information on market conduct and fees more easily accessible, and effectively used. Pertinent understanding and warnings with regards to new financial products will be promoted among target groups. To help promote sustainable development, the BOT will encourage financial institutions to **conduct their business with considerations for Ecology, Society and Governance (ESG)**, and to help **build an ecosystem that is conducive to sustainable development**. Initiatives involved would include, for example, enhancement in anti-corruption measures, greenhouse gas emission reduction, enhancement in financial literacy offerings, and corporate lending that takes ESG into account.



Bank of Thailand and ASTRI signed an agreement to share information and develop human resource on cyber security and financial technology (FinTech) on 1st December 2016.



Internal Excellence

Internal excellence is a critical foundation for the BOT to meet the increasingly difficult challenges, and fulfill its mission in sustaining economic stability and fostering sustainable development of the financial sector and the Thai economy. Furthermore, internal excellence is **key to enhance credibility and functioning of the BOT as the central bank whose core values are “integrity, vision, outreach, and humility.”** Internal excellence comprises 5 key areas.

8. Data System and Analytics

The BOT will **enhance capacity on data analytics**, Especially through the use of micro-level data to complement aggregate data, in assessing economic conditions, evaluating risks, understanding structural adjustments, and managing the organization. **Data governance process will also be enhanced**, to help with proper collection, management, and analysis of data. **High-quality data of different variety, from various sources will be obtained**, for example, payment systems data, as well as those from social media and the internet, to ensure timeliness and adequacy of data. **Access to BOT economic and**

financial data will also be made more convenient, and easier to use, also with more micro-level data and simple data dictionaries.

9. Research Excellence

The BOT needs to build a **culture of research and learning** as a learning organization, as well as to link research with policy making and policy committees' interest. An ecosystem will be made supportive to organization-wide research and receptive to academic inputs in policy debates. With stakeholders' expectation that **the BOT would contribute policy recommendations more with regards to the development of the Thai economy**, the BOT will continue to produce and strengthen in-depth analyses in this area and disseminate them through various channels. Topics of analysis, for example, would also include the transition towards aging society, and the transformation into a service economy. The BOT will also communicate the research and the BOT's stance directly to key stakeholders as well as policy makers outside the BOT.

10. Human resource

Given that employees are the heart of an organization, the BOT places a lot of emphasis on preparing its human resource to meet future challenges, especially in areas directly involved the implementation of BOT strategies. More systematic and more intensive HR development will be implemented. In certain areas, recruitment of outside experts and mid-careers will also be encouraged. **Development of multi-skill staff** in key areas (including IT) will be emphasized to meet the fast changing environment and the requirements of more agile work process. **Diversity of staff will be promoted and effectively utilized**, for example, through internal and external mobility, to ensure that the BOT staff is professionals with required depth and breadth of knowledge. Secondment between the staff of BOT and other relevant agencies and regulators will be continuously supported. Importantly, the BOT sees clear importance of developing future leaders who are capable, as well as the development of high-potential staff.

11. Organizational capability

The BOT aims to make its organization more flexible and modern, with work processes that comply with international standards, or on par with leading central banks or other leading organizations. Emphases will be on the development of systems and work process that improve efficiency; adoption of automation in relevant areas; the enhancement of note printing and management towards the criteria of Thailand Quality Award (TQA). **IT capability in key systems will also be enhanced** in line with new technologies. **Cyber security standards will be upgraded** to meet growing cyber threats. **Sustainability awareness** will be promoted among the staff incorporate BOT's sustainable development framework into their responsibilities. Ethical standards will also be enhanced to strengthen "integrity", a BOT core

value. Emphasis on ecological responsibility will be promoted through the reduction in energy usage and carbon emission.

12. Stakeholders engagement

The BOT is committed to **comprehensively hearing stakeholders' views**, in order to respond to key issues in an effective and methodical manner. This will help ensure that all possible side effects have been looked into when the BOT introduces rules and regulations, for example. The BOT also aims to **communicate to build public understanding on economics and financial issues** that can be usefully applied to daily life, especially through public guidance and warnings. The **use of digital media** (BOT website and social media) **will be enhanced**, while BOT Learning Center will also be opened to public as a holistic place of learning on the economy and the financial system. **Collaborations with strategic stakeholders will be strengthened** in the safeguard of economic stability and the development of the economy and financial system. Collaborations with existing strategic partners such as economic agencies and financial regulators will be enhanced, while collaborations with new strategic partners as ICT regulators will be sought.

The BOT's objective for the 3-year Strategic Plan is to lay the foundations for Thai economic and financial stability in the midst of growing challenges in the global environment. The goal is also for the Thai financial sector to rise to the country's challenges and help in the transition towards digital economy. The success of this plan rests on effective collaborations with all stakeholders, internal and external, for the benefits of all, as reflected in the BOT's mission, **"in pursuit of Thailand's sustainable economic well-being."**



Overall achievements in 2016

BOT's milestones in 2016 covered 3 areas :

1. Stability
2. Development
3. Internal Excellence

BOT's milestones in 2016 covered 3 areas :

3.1 There are three dimensions of stability: Monetary Policy; Financial Institutions System; and Payment Systems, the details are as follows:

Monetary Policy

The Cabinet approved the proposal to maintain the average annual headline inflation target of 2.5 ± 1.5 percent as the medium-term target and as the monetary policy target for 2016 as outlined in the Memorandum of Understanding (MOU) between the Monetary Policy Committee (MPC) and the Minister of Finance. The annual average headline inflation for 2016 registered at 0.19 percent, below the lower bound of the target due to supply-side factors as domestic energy prices remained subdued alongside global crude oil prices. Nevertheless, headline inflation continued to increase and edged above the lower bound of the target in December 2016. Meanwhile, the public's medium-term inflation expectations remained well-anchored around the target.

To maintain price stability and growth-conducive financial conditions while preserving financial stability, the MPC continued to implement accommodative monetary policy by voting to keep the policy rate unchanged at 1.50 percent throughout its meetings in 2016. In doing so, overall financial conditions remained accommodative, and while the baht exchange rate underwent volatile movements driven by developments in global financial markets, volatility was relatively low compared with regional currencies. At the same time, financial stability remained sound with sufficient cushion against economic and financial volatilities. However, there were pockets of risks that still warranted close monitoring such as the search-for-yield behavior and the defaults of unrated bonds issued by certain companies.



To achieve its mandate of price stability, together with macro-financial stability, the BOT enhanced its analysis and research on issues relating to monetary policy and ongoing changes in many facets of the Thai economy. The BOT also set up the Financial Stability Unit (FSU) with the task of being the central body for assessing systemic risk, and enhancing coordination with other regulatory bodies to ensure that financial stability will be monitored effectively and in a more holistic manner.

For 2017, the Cabinet approved the proposal to maintain the average annual headline inflation target of 2.5 ± 1.5 percent as the medium-term target and as the monetary policy target for 2017 as outlined in the MOU between the MPC and the Minister of Finance. The target was still deemed appropriate in maintaining price stability and conducive to economic growth, while preserving financial stability.

Financial Institutions System

The BOT supervises financial institutions and the financial institutions system to ensure overall financial stability, resiliency and proper risk management as well as good governance of the

financial institutions. In addition, the BOT promotes efficiency and competition in the financial institutions system, along with financial inclusion and fairness.

Safeguarding financial stability: The BOT has identified and monitored potential risks to the financial system and found that the internal and external stability of the financial system remained satisfactory. However, slow economic recovery has led to deteriorating credit quality in certain sectors and increased searching-for-yields behaviors. The BOT, along with other relevant financial regulators, will monitor these risks and review relevant regulations as deemed appropriate.

Ensuring resilience and sound risk management of financial institutions: The BOT continuously enhances its supervisory capacity. Amidst preparation for the Financial Sector Assessment Program (FSAP), the BOT has revised regulations to be in line with international standards. Moreover, the BOT has worked closely with other supervisory agencies to develop a collaborative supervisory framework.

Enhancing efficiency in business operations of financial institutions: The BOT has amended relevant regulations to support the developments in financial technology (FinTech) and changing business models, including Regulations on IT Outsourcing for Business Operations of Financial Institutions, Regulations on Acceptance of Deposits or Money from Customers to facilitate the increasing trend of digital transactions, Regulations on Financial Consolidated Group's Venture Capital and Financial Technology (FinTech) Businesses, and Regulations on Classification and Provision of Financial Institutions. With regards to Regulations on Classification and Provision of Financial Institutions, the BOT, in alignment with the Business Collateral Act B.E. 2558 (2015), has added the eligible types of collateral that can be deducted

from the loan value before provisioning. In addition, the BOT has issued guidelines for regulatory sandbox to allow experimentation of innovative financial products under a flexible regulatory framework.

Safeguarding consumers' rights: The BOT has issued a circular to commercial banks and non-banks to emphasize the importance of consumer protection on issues such as consumer data security and sufficient stock of normal ATM and debit cards.

Thai banking system performance in 2016: The banking system observed subdued loan growth and loan quality deterioration. Yet, the commercial banking system remained robust with high level of loan loss provision and capital fund, and increased net profit from management of deposit portfolio. Specialized Financial Institutions (SFIs) saw subdued loan growth as a result of slower activities relating to Public Service Accounts and debt repayment of the government. Compared to the previous year, loan quality remained stable but with the prospect of deterioration. However, loan loss provision and capital fund are adequate to support future loan growth.

Payment System

The BOT has been pursuing initiatives under the Payment Systems Roadmap 2012-2016, with the objectives to enhance efficiency, mitigate risk and protect consumers, enabling payment systems to efficiently and safely support economic activities of public and private sectors, both domestically and internationally. The main achievements and progresses in 2016 can be summarized as follows:

The BOT has been driving the National e-Payment Master Plan, in particular, the two projects that are under the BOT's main responsibilities, including the development of the national payment infrastructure called PromptPay Funds Transfer, and Card Usage Expansion, which involves the installation

of electronic data capture (EDC) terminals that would increase access for individuals to e-Payment channels. Furthermore, the BOT released the regulation that supports debit cards issued and used domestically, to foster e-Payment channels that are convenient and cheap for individuals and merchants. The BOT is also drafting QR Code guideline for bill payments and funds transfers, which would ease individuals, businesses and SMEs in paying bills, having contained information needed for issuing receipt/tax invoice in accordance with the regulation by the Revenue Department.

For the development of infrastructure that supports ASEAN Economic Community 2016-2025, the BOT has been supporting cross-border payments through linkages of payment infrastructures or services. There is also a plan to formulate a policy framework that support cross-border remittances for migrant workers, via efficient, low cost and accessible services, provided by both banks and non-banks.

Additionally, the BOT has drafted the Payment Systems Act to enhance the efficiency in the oversight of payment systems and services, to be compliant with international standards and support the government's policy on Digital Economy. At present, the drafted Payment Systems Act has been considered by the council of State and is in the process of submission to The Secretariat of the Cabinet and The National legislative Assembly, respectively. Furthermore, the BOT has engaged in the issuance of

the Royal Decree on Regulating Electronic Payment Services of Specialized Financial Institutions B.E. 2559 (2016) and revised regulations related to the supervision of e-Payment service providers, to ensure the appropriateness of the regulations to the current economic and business environment.

On the oversight role, the BOT has been overseeing important payment systems in accordance with the Principles for Financial Market Infrastructures (PFMIs), and preparing to be assessed by the International Monetary Fund (IMF) and World Bank, under the Financial Sector Assessment Program (FSAP) on payment systems.

Finally, the BOT has collaborated with the Office of The National Broadcasting and Telecommunications Commission (NBTC) to enhance the security of mobile payment services. The NBTC has implemented a set of the Know Your Customer rules in the event that consumers are to be issued with a new SIM card. This is to prevent unlawful activities. Moreover, the banking industry and the telecommunication network providers have cooperated to ensure an adequate level in the security of mobile banking and PromptPay services.

3.2 Development

The BOT has commenced the Financial Sector Master Plan Phase III (2016-2020) (FSMP III) which includes the launch of Prompt Pay, which provides all sectors with a more convenient alternative fund transfer system and a draft Bank of Thailand notification regarding peer-to-peer lending to promote financial access for entrepreneurs and create new investment channels. The FSMP III, which was approved by the cabinet at the beginning of 2016, has taken into consideration the Thai financial landscape in order to give policy recommendations on financial system structure that would be congruent with the economic and financial conditions for the coming 3 years.



Financial Connectivity In promoting connectivity of financial institutions and financial systems within the region, the BOT has participated in the 8th round of negotiations of financial services liberalization under the ASEAN Framework Agreement on Services (AFAS).

The BOT is also in the process of negotiating bilateral agreements on establishment of Qualified ASEAN Banks (QABs) with Malaysia, Indonesia and Myanmar to elevate Thai commercial banks' business opportunities and enhance economic and financial connections in ASEAN. In addition, the BOT has continuously contributed in the various international forum to improve international banking supervision standards. Under the Capital Account Liberalization Master Plan Phase II, the BOT has allowed Thai investors to invest in securities abroad directly without the need to go through local intermediaries. Moreover, recognizing importance of China, the BOT arranged field trips to China and organized China Intelligence Networking meeting with private sectors to foster deeper understanding of ongoing economic structural changes, assess its implication on Thailand, and formulate appropriate response.

Payment System BOT has shifted Thailand's payment system into a comprehensive electronic payment system which serves all sectors: government, businesses, and consumers through the launch of PromptPay. The PromptPay government-to-consumer (G2C) service was launched in December 2016 and PromptPay consumer-to-consumer (C2C) service followed in January 2017. Furthermore, the BOT required service providers to replace magnetic debit cards and ATM cards with chip cards to enhance security and users' confidence as well as assure interoperability among local and international service providers.

Consumer Protection on Financial Services Financial Consumer Protection and Market Conduct Department was setup to ensure that consumers are treated fairly and are provided with services that suits their needs. The BOT has also encouraged commercial banks to improve the industry Code of Conduct as well as conduct a self-assessment on their market conduct practices.



MOU signing ceremony between the Bank Indonesia and the Bank Negara Malaysia, and the BOT and the Bank Indonesia respectively on 23rd December 2016 on Local Currency Settlement Framework to promote the bilateral trade and direct investment.



3.3 Internal Excellence

Data Management BOT realizes the importance of making use of data, both variety and depth, for a comprehensive policy formulation process, which would result in timely and effective policies, thus the BOT has enhanced her collaborations with other government agencies and has used various in-depth data, such as developing economic indicators using data from cheque usages, trade finance, and electricity consumption, etc.

Reserve Management The BOT seeks to further enhance its efficiency and capability through an amendment to the Bank of Thailand Act allowing investment in equities, which was approved by National Legislative Assembly.

Banknote Excellence The BOT issued two commemorative banknotes to celebrate the Seventieth Anniversary Celebrations of His Majesty King Bhumibol Adulyadej's Accession to the Throne on 9th June 2016 and the Auspicious Occasion of Her Majesty Queen Sirikit's 7th Cycle Birthday Anniversary on 12th August 2016.

Stakeholders Engagement The BOT emphasizes effective communications with stakeholders and general public through digital platforms and social media, such as BOT Facebook and Twitter, in order to gain better insights and foster confidence in the BOT roles and responsibilities.



Human Resources Management and Organizational Development The BOT proceeded with organizational restructuring to support new missions, implementing a Strategic Staffing Plan, and strengthening staff's capability particularly in critical areas to ensure sufficient personnel necessary to accomplish their missions.

Organizational Structure, Working System and Work Process

In 2016, the BOT's organizational structure, working systems and work processes have been improved continuously in order to support new tasks and drive the BOT's 3-year Strategic Plan (2017-2019) emphasizing on work efficiency improvement and strengthen organization capability. It was also primarily focused on organization alignment and manpower management to respond challenges and important missions.

4.1 Organization structure development and process improvement to support new missions and the BOT's Strategic Plan (2017-2019) The BOT's organizational structure, working systems and work processes have been developed to support the BOT's 3-year Strategic Plan (2017-2019) to comply with the Financial Sector Master Plan (FSMP) Phase III which focuses on the "Competitive, Inclusive, Connected, Sustainable" concept and to prepare for the "Thailand 4.0 Policy" which technology and innovations are vital. Key developments are as follows:

- (1) Two new groups were established; namely, Payment Systems Policy and Financial Technology Group, which is responsible for driving payment system policies and financial technology, and Corporate Strategy and Relations Group, which is responsible for organization strategies, international cooperation and communication management in order to support financial connectivity.
- (2) Two new departments were established; namely, Market Conduct Department, which is responsible for protecting financial customers, monitoring financial institutions or entrepreneur under the BOT's supervision to provide high standard financial services and fairness to consumers and boosting competitiveness appropriately; and Financial Technology Department, which is responsible for study, analysis and pursuance of new financial technology and product development including guidelines and policy for the supervision of the new financial technologies and products business.
- (3) The departments which contained different skills and expertise of job requirements were adjusted by regrouping similar skills and expertise together. For instance, under the International Economic Department, the works related to international cooperation and international economic analysis were separated. Under the Risk Management and Information System Examination Department, the works related to risk assessment and financial institution modeling and information system examination were also split. Within the Financial Consumer Protection Center, the work related to complaint management, consumer complaint analysis, standard development, financial advisory and call center 1213 were apparently segregated from the one related to financial literacy.

As a result of the aforementioned, the BOT's groups have been increased from 10 to 12 groups, and the BOT's departments have been risen from 44 to 47 departments since 1 October 2016. The names of some divisions were also changed to explicitly reflect their roles.

4.2 Organization structure development and process improvement to comply with the BOT's Mandate

- (1) The work pertained to negotiations for financial services liberalization under the Financial Institutions Strategy Department was transferred to the International Economic Department aiming to centralize the tasks related to negotiations for financial services liberalization in investment and financial services, and to provide an administrator who is able to supervise BOT's overall liberalization jobs.
- (2) The new department, namely Financial Stability Unit, was established to work as a Think Tank Unit and to be a center of the work on BOT's financial stability development.
- (3) The Financial Markets Department was restructured in accordance with financial market development plan and cooperation between the BOT as a joint chairman of the Thai Financial Markets Committee: TFMC, and participants in order to set directions and guidelines for Thai financial market development.
- (4) The Payment Systems Policy Department was redesigned in accordance with the National e-Payment Master Plan and draft of the Payment System Act.
- (5) The Office of Corporate Strategy was revised to accommodate the increasing missions on cross-functional strategic planning.
- (6) The Financial Literacy Department was redesigned to be more responsible for managing the BOT's new learning center in accordance with financial literacy guideline under the BOT's 3-year Strategic Plan (2017-2019).

BOT Organization chart

The Bank of Thailand Board

Governor

Mr. Veerathai Santiprabhob

Monetary
Policy Committee

Financial Institutions
Policy Committee

Payment Systems
Committee

Puey Ungphakorn
Institute for
Economic Research
Committee

Puey Ungphakorn Institute
for Economic Research

Mr. Piti Disyatat

Subcommittee on
Financial Stability

Monetary Stability

Financial Institutions Stability

FIDF Management
Department

Mr. Tharith Panpiemras

Financial Markets
Operations Group

Monetary Policy
Group

Financial Institutions
Policy Group

Supervision Group

Payment Systems
Policy and Financial
Technology Group

Reserve Management
Department

Mr. Amporn Sangmanee

Economic and Policy
Department

Mr. Don Nakornthab

Financial Institutions
Strategy Department

Miss Daranee Saeju

Regulatory Policy
Department

Miss Mathinee Subhaswadikul

Financial Institution
Applications Department

Mrs. Vireka Suntapuntu

Banking Supervision
Department 1

Mr. Yongsak Seanglaw

Banking Supervision
Department 2

Mr. Anupap Kuvichkul

Banking Supervision
Department 3

Mrs. Nawaron Dejsuvan

Specialized Financial
Institutions Supervision and
Examination Department

Mrs. Wajeetip Pongpech

Financial Consumer
Protection and Market
Conduct Department

Mrs. Thanyanit Niyomkarn

Risk Assessment and
Modeling Department

Mr. Suparat Vorabhand

Planning and Examiner
Development Department

Miss Sunadda Paripunna

Payment Systems
Policy Department

Mrs. Nisarath Trairatvorakul

Financial Technology
Department

Mr. Buncha Manoonkunchai

Information System
Examination Department

Mrs. Budsakorn Teerapunyachai

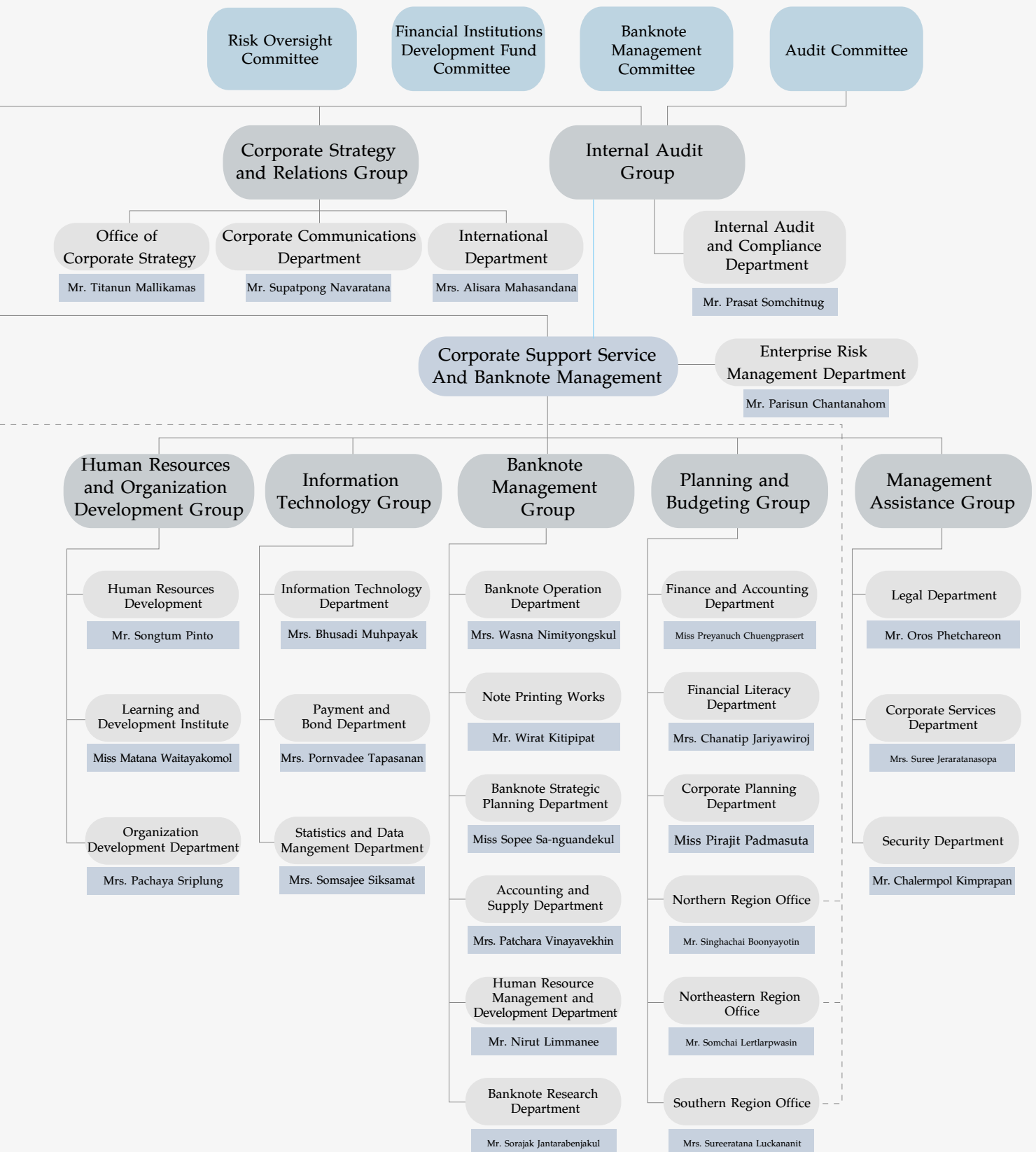
Financial Stability Unit

Mr. Sakkapop Panyanukul

--- Reporting Line of Regional Economy Division

— Line of Command

— Specific Reporting Line



Corporate Governance and Risk Management



The BOT's corporate governance and risk management cover and are in accordance with the laws and regulations related to the work of the BOT, and amend the BOT Act, as follows:

5.1 Corporate Governance

According to the BOT Act B.E. 2485 as amended by the BOT Act (Issue 4) B.E. 2551, roles and responsibilities of the BOT and the BOT Board are indicated as supervising overall activities of the BOT, with the objectives of maintaining monetary stability, financial institutions system stability and payment system stability, including planning, budgeting and the management of the assets. The BOT is also responsible for the formulation and implementation of monetary policy, financial institutions policy and payment system policy under the boards having authorities and responsibilities for specific policy lines such as the Monetary Policy Committee, the Financial Institutions Policy Committee and the Payment Systems Committee.

In order to provide policy coordination among the different committees, the BOT has work system that promotes collaboration in the form of sub-committee such as Financial System Stability Sub-Committee.

In addition, the Audit Committee, appointed by the BOT Board, acts as a mechanism of the BOT Board in overseeing the BOT's business for good corporate governance, proper risk management, as well as efficient internal control and audit systems.

5.2 Enterprise Risk Management

There are two main risk management committees at the BOT. The Risk Oversight Committee (ROC), whose members are appointed from the non-executive members of the BOT Board and external qualified experts, assists the BOT Board in overseeing risk management policies and framework as well as makes certain that the bank's current risk management policies and control systems are adequate and suitable for the changing environments.

The Risk Management Committee (RMC), chaired by the Governor, determines risk management policies and framework so that the BOT operates in accordance with good governance principles. Supporting the ROC and the RMC, the Enterprise Risk Management Department serves as the primary agent to ensure that risk management in the bank is in compliance with the approved policies, encompassing policy and strategic risk, financial risk, operational risk, and reputational risk.

(1) Integrated Risk Management

In B.E. 2559, enterprise risk assessment was carried out to assess significant risks to the organization and determine proper management and controls for these risks. This risk management process aims to enhance efficiency and effectiveness of the BOT's operations. It also helps ensure that the BOT is aware of major risks that could significantly affect its operations, and possesses appropriate plans and controls for managing those risks.

(2) Financial Risk Management

Financial risk management at the BOT covers financial risks arising from three main operations: the management of international reserves, the implementation of monetary and exchange rate policies, and the role as the banker to financial institutions. The financial risks can be divided into three categories: market risk, credit risk, and liquidity risk. The BOT delegates financial risk management to the following committees and sub-committees: the Bank of Thailand Board, the Audit Committee, the Risk Oversight Committee (ROC), the Risk Management Committee (RMC), the Financial Risk Management Sub-Committee (FRMC), and The Financial Markets Operation Sub-committee.

In B.E. 2559, the Bank of Thailand revised its reserve management framework and governance structure to increase its ability to cope with volatility and changing landscape of world economy and global financial markets. This will result in an enhanced efficiency of reserve's value preservation as well as liquidity and stability managements of domestic financial markets.

To evaluate, oversee, and monitor the management of foreign assets, the Financial Risk Management Office uses a straight-through-processing system. The BOT periodically reviews its portfolios' benchmarks according to their investment horizons to ensure that its risk and return correspond to investment objectives. The reviews in recent years have resulted in the composition of international reserve become more diversified for both financial assets and currencies.

(3) Operational Risk Management

The BOT has employed a combination of risk management tools to ensure effective management of operational risk in a changing environment. All departments in the BOT annually conduct Control Self-Assessment (CSA) in order to improve the efficiency and effectiveness of controls within work processes. The Loss Incident Reporting system, Key Risk Indicators and Risk Dashboard have been used to enhance the monitoring of key risks and facilitate risk reporting to the Risk Management Committee (RMC). Further, the BOT has constantly revised both enterprise-level and department-level Business Continuity Management (BCM) framework to handle against disruption of BOT's critical functions in emergency situations. In B.E. 2559, the BOT has conducted Business Continuity Plan (BCP) drill under mobile office concept, using more than one temporary offices outside the BOT, to enhance the bank's resilience in case of crisis.





5.3 Oversight under Related Laws

The BOT oversees e-Payment service providers in accordance with other related laws.² In 2016, the main oversight activities can be summarized as follows:

- (1) The BOT oversees non-bank e-Money service providers that have been granted licenses under the Ministerial Notification of Ministry of Finance: Business for which permissions must be obtained according to Section 5 of the Notification of the Revolution Council No. 58 (e-Money businesses) dated 4 October 2004. At the end of 2016, there were 14 non-bank e-Money service providers, three of which were granted the license this year, and there was one e-Money service provider which was under the request for discontinuing its business.

In 2016, the Ministry of Finance and the BOT revised rules, procedures and conditions in undertaking e-Money businesses, including both the Ministerial Notification of Ministry of Finance: Business for which permissions must be obtained according to section 5 of the Notification of the Revolution Council No. 58 (e-Money businesses) and the BOT notification. The objective was to accommodate changes in business environment and to effectively oversee risk of service providers. The revisions became effective since 29 June 2016 and 3 August 2016 respectively.

- (2) According to the Royal Decree on Regulating Electronic Payment Service Business, B.E. 2551 (2008) and the Royal Decree on Regulating Electronic Payment Services of Specialized Financial Institutions, B.E. 2559 (2016) issued under the Electronic Transaction Act, B.E. 2544 (2001), the

² 1) The Ministerial Notification of Ministry of Finance: Business for which permissions must be obtained according to Section 5 of the Notification of the Revolution Council No. 58 (e-Money businesses)

2) The Royal Decree on Regulating Electronic Payment Service Business, B.E. 2551 (2008)

3) The Royal Decree on Regulating Electronic Payment Services of Specialized Financial Institutions, B.E. 2559 (2016)

BOT is empowered to oversee electronic payment service providers, which are categorized into three levels. List A for businesses that are required to notify to the BOT, List B for businesses that are required to register with the BOT and List C for businesses that are required to acquire a license before providing services. In 2016, the BOT's main oversight activities according to both laws can be summarized as follows:

- (1) The BOT considered the applications from List A and List B applicants, and also considered the applications for List C licenses before providing recommendations to Electronic Transactions Commission (ETC) for approval. At the end of 2016, there was one List A service provider, ten List B service providers, and 103 List C service providers (30 commercial banks, six specialized financial institutions and 67 non-banks) with a total of 181 licenses (excluding the returned licenses). In 2016, one List B registration was discontinued, and five List C licenses were returned.
- (2) The BOT monitored and supervised all electronic payment service providers to ensure that they comply with the Royal Decree and related Notifications and reported findings to the Electronic Transactions Commission (ETC) on a regular basis.
- (3) The BOT and ETC issued the notification for undertaking electronic payment businesses under the Royal Decree on Regulating Electronic Payment Service Business, B.E. 2551 (2008) to accommodate changes in economic environment and business practices, such as streamlining operational regulations to reduce burden of service providers and enhance flexibility in practice, strengthening prudential criteria of e-Money business providers, and providing more clarified regulations for the oversight of payment agents.

Moreover, the BOT issued notification on debit cards that are issued and used domestically and specified chip card standards in order to enhance the security of electronic payment services, build trust in the financial system and payment system, foster competition in e-Payment services through stimulating debit card issuance and usage as the replacement of cash, which are in accordance with the government's policy in supporting e-Payments, and enhancing efficiency and reducing cost burdens in providing and using the services.

- (4) The BOT issued the notification to supervise Specialized Financial Institutions (SFIs) in the Royal Decree on Regulating Electronic Payment Services of Specialized Financial Institutions B.E., 2559 (2016) under the Electronic Transactions Act B.E. 2544 (2001), which has become effective since 28 July 2016, in order to enhance the efficiency and be in line with the current e-Payment market environment, as well as to increase public trust in e-Payment services.

5.4 The Amendment of the Bank of Thailand Act

In 2016, the Bank of Thailand Act (the “BOT Act”) was amended to enable the BOT to invest in investment units or equity instruments issued by foreign juristic persons in order to provide more flexibility in foreign assets management and to increase efficiency of risk management of the BOT (Notification of the Government Gazette, 24 January 2017). Besides, it has been proposed to amend the BOT Act to have a mechanism for solving the problems of financial institutions facing financial crisis that may affect the stability of the economy and financial system, and to increase authority of the Financial Institutions Development Fund in solving the problems of financial institutions in accordance with such plans, guidelines and procedures as approved by the Cabinet.



BOT's Operation



- Summary of Global and Thai economy in 2016
- Maintaining economic and financial stability
- Maintaining financial institutions system stability
- Payment Systems Stability
- Banknote Issuance and Management
- Safeguarding the public interest
- BOT's Participation in International Organizations and International Fora
- Economic Operating of regional offices of the Bank of Thailand
- International Excellence

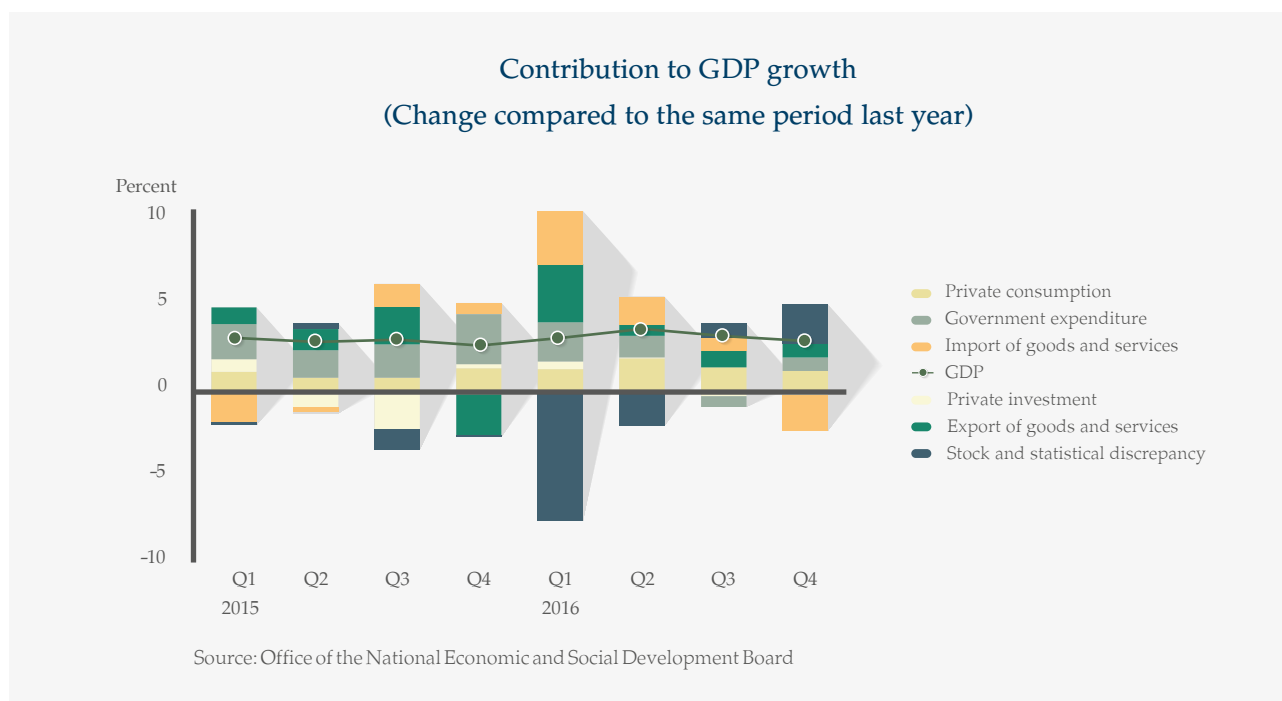
BOT's Operation

1. Summary of Global and Thai Economy in 2016

In 2016, the global economy recovered at a gradual pace. World production and trade remained weak. Major industrial economies (G3) expanded slowly supporting by easing monetary conditions as well as gradual improvement in economic fundamental especially the labor market that contributed to improvement of household income and consumption. Meanwhile, Chinese economy continued to slow down as a consequence of economic reform. Furthermore, Asian exports were affected by not fully global economic recovery and structural changes in global trade that lower import dependency in many countries.

However, in the second half of 2016, growth in some economies have improved especially Asian economies where consistent improvement in IT-related exports were observed.

Look forward, global economy would face risks from (1) the ability of the Chinese authorities to maintain the balance of economic growth and to foster macroeconomic stability (2) an increase in trade and investment protectionism (3) the political uncertainty in Europe, which may affect the global recovery and heighten global money market volatility.



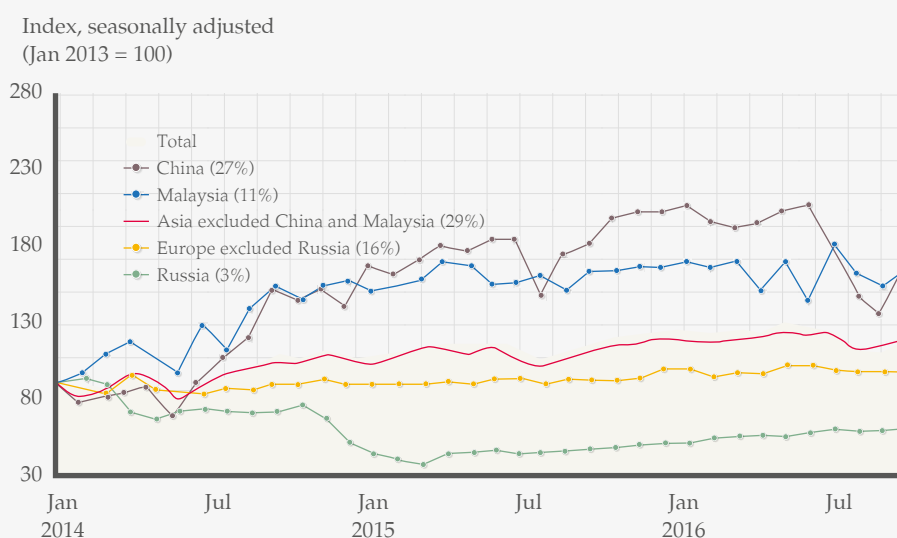
In 2016, the Thai economy was faced with a number of headwinds: severe drought, subdued exports, domestic uncertainty, dynamics of global politics and heightened volatility in the global

financial market at times. Against this backdrop, the Thai economy still managed to register a 3.2% growth. The robust growth in tourism has continued its important role as a growth driver since the previous

year. This also enabled tourist-related services to expand despite some slowdown in late 2016 during the government's regulation of illegal tours and reduced entertainment activities in the mourning period. Private consumption steadily expanded on the back of improving income and employment in tourism-related service sectors. Farm income recovered after the drought had subsided in the second

half of the year. Consumption was further supported by special factors, namely intense competition on promotional campaigns by several businesses and government's stimulus measures at various times. Moreover, public spending continued to rise especially for public investment in infrastructure projects on transportation with support from measures to boost disbursement efficiency. As a result, overall disbursement rate improved.

Index of Foreign Tourists Classified by Nationality



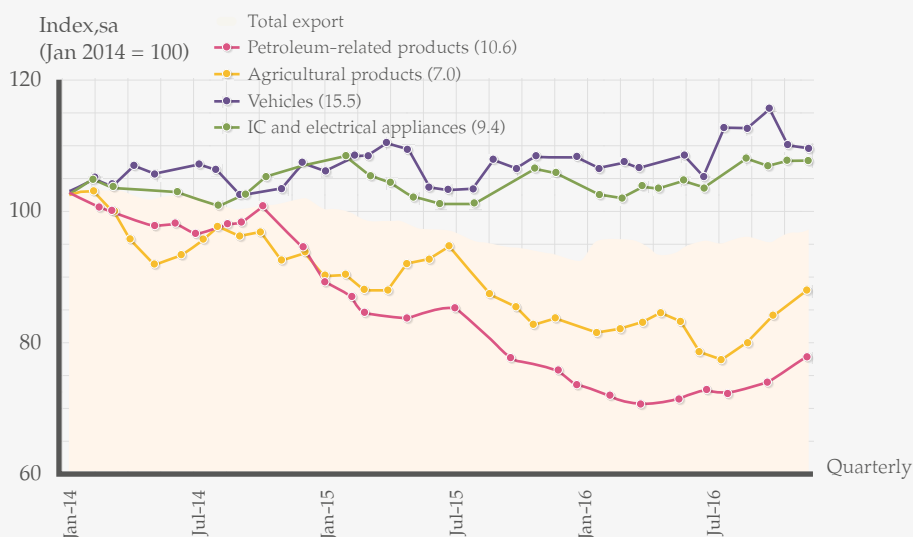
Note: Numbers in parentheses represented the ratio of tourists to total tourists

Source: Department of Tourism, index calculations by Bank of Thailand

The value of merchandise exports stabilized from last year after having contracted for 3 consecutive years. The recovery in exports became more evident in the second half of the year due to three main factors. First, improvement in external demand for various products, such as electrical appliances and electronics (particularly integrated circuits and parts), was in line with regional exports and supported by greater demand from the wave of Internet of Things. Second, some Chinese producers moved their production base to Thailand to avoid anti-dumping measures imposed by the U.S. and the European Union for certain products such as solar panels and vehicle tires. Third,

petroleum-related products, whose prices had previously contracted, bounced back in both price and quantity terms. However, slowly recovering global trade volume remained a drag on the overall export recovery. Quantity of exports is therefore expected to gradually improve but will not display a high growth as experienced in the past. Meanwhile, private investment slightly expanded and concentrated in the service sectors and utilities, especially alternative energy businesses that benefited from government measures. Investment also increased in the recovering export-oriented industries.

Upward Trending Export Products



Note : The number in parentheses represent share in each products to total export in 2016.

Source : Compiled from Customs Department's data

Manufacturing Production Index

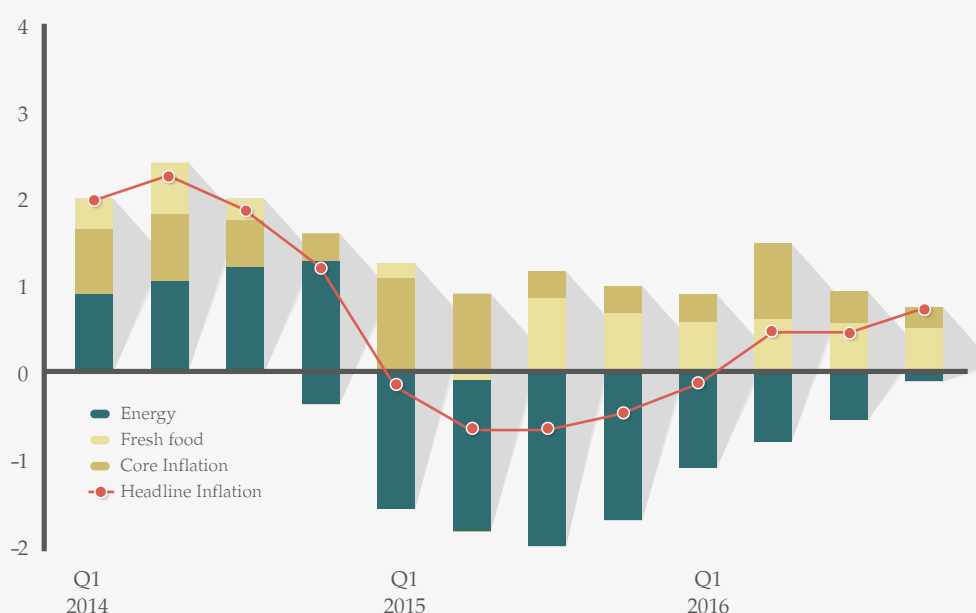
Industry (Annual percentage change)	Relative Weight 2558	2015	2016	2016			
				Q1	Q2	Q3	Q4
Food and beverages	18.4	-0.6	0.4	2.3	-2.1	1.2	0.2
Automobiles	19.8	2.2	-1.5	-3.3	12.7	-6.7	-6.5
Rubbers and plastics	10.2	1.5	-0.7	3.3	-4.6	-4.0	2.2
IC & Semiconductor	7.1	0.9	4.7	-2.8	1.7	6.4	13.1
Textiles & Apparels	5.2	-6.9	-12.1	-17.5	-18.4	-10.3	-0.5
Chemicals	5.6	0.4	1.5	3.1	3.3	-1.5	1.0
Cement and construction	4.5	-3.4	0.6	1.2	-3.2	3.5	0.9
Electrical appliances	4.7	-3.2	14.0	8.3	18.5	23.6	6.4
Petroleum	4.9	16.8	3.3	-0.9	1.4	3.9	8.8
Hard Disk Drive	0.9	-22.8	-7.7	-18.5	-13.2	1.1	1.0
Others	18.8	0.2	0.9	-1.8	1.2	0.2	4.3
MPI	100.0	0.3	0.4	-0.9	1.7	-0.3	1.5

Source: Office of Industrial Economics

On the stability front, headline inflation returned to the positive territory as domestic energy prices became more stable and steadily increased according to higher global oil prices. Nonetheless, core inflation remained low as with last year due to the gradually recovering economic conditions. The unemployment rate stabilized at a low level. Meanwhile, the slow

economic recovery led the stability of households and small enterprises to be more vulnerable as reflected by their deteriorating debt serviceability. However, overall financial stability remained sound as suggested by sufficiently high loan loss provisions and capital buffers to withstand a potential increase in non-performing loans.

Contribution to Headline Inflation



Source: Bureau of Trade and Economic Indices, Ministry of Commerce, calculations by Bank of Thailand

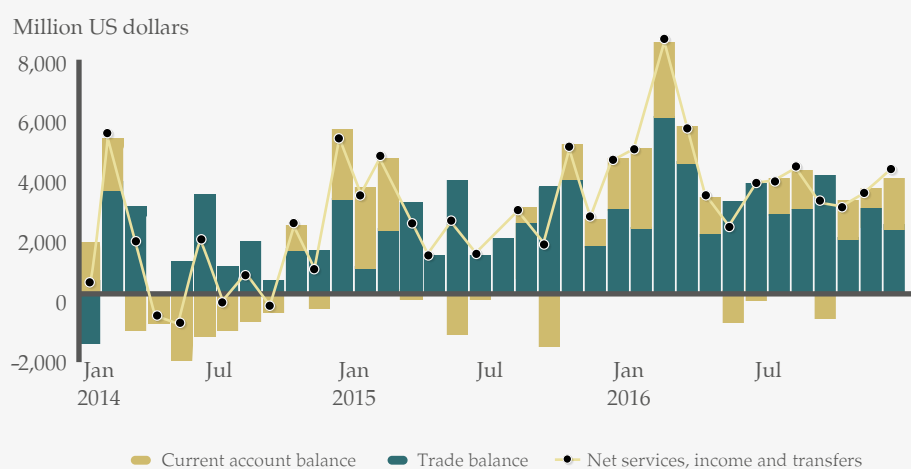
The current account registered a high surplus in both the trade and service accounts. The trade surplus was a result of low imports, especially for energy. The service surplus reflected higher tourism receipts and the impact of low imports on smaller freight fees. However, the balance of payment posted a smaller surplus than the current account surplus due to the deficit in the capital account. Outward fund flows by Thai investors consisted of (1) direct investment, especially in energy and service sectors;

(2) portfolio investment in equity and debt securities; and (3) deposits abroad by Foreign Investment Fund (FIF). On the other hand, foreign direct investment continued to flow into Thailand for production of computers, electronics and integrated circuits which should benefit exports of such products in the period ahead. There was also foreign direct investment in finance and real estate sectors. Meanwhile, movements of the Thai baht against the U.S. dollar were mostly in line with other regional currencies due to external

factors on global economic recovery and monetary policy directions of major advanced economies. But, there were times during which the baht and Nominal Effective Exchange Rate (NEER) appreciated thanks to Thailand's strong external position and better-than-

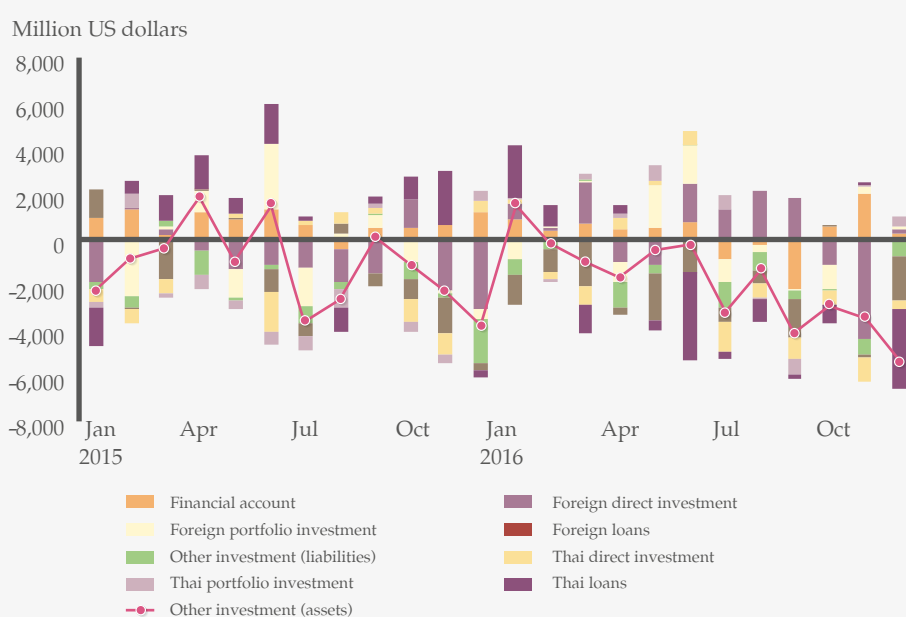
expected economic growth amid several headwinds. Overall, external stability was not a concern due to the high ratio of international reserves to external debt and the low ratio of external debt to GDP.

Current Account Balance



Source: Bank of Thailand

Financial Flows Classified by Types



Source: Bank of Thailand



Monetary conditions remained eased as the policy interest rate was kept stable and low at 1.5 percent throughout the year. Moreover, commercial banks reduced their lending rate by 25 basis points and financing costs in the bond market decreased by 56 basis points. In the first half of the year, medium- and long-term government bond yields fell as a response to heightened concerns of investors on global economic recovery and global political uncertainties. In the second half of the year, government bond yields rose somewhat after investors altered their expectation on the Federal Reserve's monetary policy. However, despite the eased monetary conditions, total corporate financing slightly decelerated. The investment prospect remained subdued amid gradually recovering economy. Loan growth also slowed down partly

because some large corporates turned to fundraise in the bond market instead of borrowing by loan. Moreover, financial institutions tightened their lending standard for SMEs.

In 2017, the Thai economy should maintain its growth momentum. Growth drivers are expected to be more balanced between external and domestic demand. On the external front, exports should recover in accordance with trading partners' economies and a supporting factor from rising demand for electronics in the global market. Public spending, private consumption and tourism are expected to grow continuously. In addition, **inflation should gradually rise** according to higher global oil prices and recovering domestic demand.

Thailand's Economic Conditions in 2016

	2014	2015			2016		
	Year	H1	H2	Year	H1	H2	Year
(Annual percentage change, unless specified otherwise)							
Gross Domestic Product ^{1/}	0.9	3.0	2.9	2.9	3.4	3.1	3.2
Demand (expenditure)							
Private consumption expenditure	0.9	2.0	2.3	2.2	3.4	2.8	3.1
General government consumption expenditure	2.8	1.9	4.1	3.0	5.6	-2.0	1.6
Gross fixed capital formation	-2.2	5.8	3.1	4.4	4.2	1.4	2.8
- Private	-0.8	-0.0	-4.4	-2.2	1.4	-0.6	0.4
- Public	-7.1	28.0	30.5	29.3	12.9	7.1	9.9
Exports of goods and services	0.2	1.6	-0.2	0.7	2.9	1.3	2.1
Imports of goods and services	-5.3	1.5	-1.5	0.0	-3.9	1.1	-1.4
Supply (production)							
Agriculture	-0.6	-6.4	-5.0	-5.7	-1.3	2.4	0.6
Manufacturing	0.1	1.3	1.7	1.5	1.0	1.8	1.4
Construction	-2.4	17.4	16.7	17.0	10.8	5.6	8.3
Services and others	1.8	5.0	4.3	4.6	4.9	4.0	4.4
Domestic stability							
Headline Consumer Price Index	1.89	-0.81	-0.99	-0.90	-0.09	0.47	0.19
Core Consumer Price Index (excluding raw food and energy)	1.59	1.22	0.88	1.05	0.73	0.75	0.74
Unemployment (percent of total labor force)	0.8	0.9	0.9	0.9	1.0	1.0	1.0
Public debt (end of period, billion baht)	5,624	5,684	6,005	6,005	5,924	5,922	5,922
Share of GDP (end of period, percent)	42.8	42.7	44.4	44.4	42.8	42.2	42.2
External Stability (billion U.S. dollars)							
Trade balance	17.3	11.5	15.3	26.8	20.1	15.6	35.8
Current account balance	15.1	14.7	17.5	32.1	26.2	20.2	46.4
Capital account balance ^{2/}	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Financial account balance	-16.2	-2.6	-14.5	-17.1	-3.4	-21.4	-24.8
Balance of payment ^{2/}	-1.2	7.3	-1.5	5.9	17.7	-4.8	12.8
Gross international reserves (end of period)	157.1	160.3	156.5	156.5	178.7	171.9	171.9
External debt (end of period)	141.7	139.0	131.4	131.4	143.1	131.5	131.5

	2014	2015			2016		
	Year	H1	H2	Year	H1	H2	Year
International reserves to short-term debt (ratio) ^{2/}	2.8	2.8	3.0	3.0	2.9	3.2	3.2
External debt to GDP (percent)	34.7	33.7	32.1	32.1	35.4	32.5	32.5
External debt to export value (percent)	50.3	49.1	46.7	46.7	51.1	47.1	47.1
Short-term debt to external debt (percent)	40.2	40.7	40.0	40.0	42.5	40.3	40.3
Monetary statistics (end of period) (billion baht)							
Monetary base	1,666.8	1,549.9	1,710.1	1,710.1	1,639.8	1,816.4	1,816.4
Annual percentage change	5.4	2.8	2.6	2.6	5.8	6.2	6.2
Narrow money	1,682.5	1,619.8	1,778.1	1,778.1	1,742.3	1,864.2	1,864.2
Annual percentage change	1.3	2.2	5.7	5.7	7.6	4.8	4.8
Broad money	16,809.1	17,101.6	17,551.7	17,551.7	17,835.2	18,289.4	18,289.4
Annual percentage change	4.7	6.1	4.4	4.4	4.3	4.2	4.2
Financial institution's deposits including bills of exchange ^{3/}	16,402.1	16,776.4	17,269.4	17,269.4	17,575.3	17,931.5	17,931.5
Annual percentage change	4.0	6.3	5.3	5.3	4.8	3.8	3.8
Financial institution's private credits ^{3/}	15,309.2	15,651.6	16,154.4	16,154.4	16,350.1	16,721.5	16,721.5
Annual percentage change	4.2	5.3	5.5	5.5	4.5	3.5	3.5
Interest rates (end of period) (percent per annum)							
- Repurchase rate, one-day	2.00	1.50	1.50	1.50	1.50	1.50	1.50
- Overnight interbank rates (mode)	1.90	1.40	1.40	1.40	1.40	1.40	1.40
- Time deposits rate, one year ^{4/}	1.73	1.50	1.40	1.40	1.38	1.38	1.38
- Prime rate (MLR) ^{4/}	6.75	6.51	6.51	6.51	6.26	6.26	6.26
Exchange rate (end of period) (baht per U.S. dollar)	32.90	33.77	36.00	36.00	35.13	35.80	35.80
Nominal Effective Exchange Rate ^{5/} (end of period) (2012=100)	109.08	108.84	106.07	106.07	105.11	108.13	108.13

Note: 1/ Chained volume measures

2/ Preliminary data as of 22 February, 2016

3/ Financial institution consist of all deposit-taking institutions except the Bank of Thailand

4/ Average rate of four largest commercial banks

5/ Higher NEER means that the baht appreciated compared to trading partner's and competitor's currencies

Sources: Office of the National Economic and Social Development Board, Ministry of Commerce, National Statistical Office, Public Debt Management Office and Bank of Thailand



2. Maintaining economic and financial stability

To achieve the goal in maintaining economic and financial stability under monetary policy, the BOT's operations comprise of monetary operations, financial market development reserve management and operations, and relaxation of foreign exchange control. In 2016, the BOT has maintained economic and financial stability as follows:

2.1 Monetary Operations

The BOT implements Monetary Policy Committee's (MPC's) policy interest rate decisions by managing liquidity in the banking system through various monetary instruments. The monetary operations are designed to meet liquidity needs of the banking system, for both required reserves and settlement balances, in order to ensure that liquidity condition remains appropriate and supportive of money market rates that are consistent with the policy rate.

In 2016, excess liquidity in Thai banking system increased by 1,218.2 billion Baht, due mainly to BOT operations and budget disbursement. The BOT continued to absorb excess liquidity through open market operations which comprise four main instruments as follows:

(1) Bank of Thailand bond and bill issuance

The issuance of BOT bonds and bills continued to be the principal instrument used to absorb structural liquidity surplus in the system. This has fostered development of the Thai bond market by enhancing its liquidity and efficiency. In formulating the BOT bond issuance plan, the BOT took into consideration prevailing market and liquidity conditions as well as the government's funding plan.



In 2016, the net issuance of BOT bonds and bills increased by 312.5 billion Baht, bringing the total outstanding amount at the end of the year to 3,136.0 billion Baht (25.14 billion Baht of which was held by the BOT through bond buyback operations). Net BOT bonds outstanding represented approximately 57 percent of total absorption outstanding.³ Over 60 percent of the total BOT bonds and bills outstanding was issued with the original maturities of one year or less.

(2) Bilateral Repurchase transactions with Primary Dealers

The BOT uses Bilateral Repurchase (BRP) as a primary channel to manage short-term liquidity, which could fluctuate due to seasonal patterns and government cash flows. To enhance the signaling effect of the policy stance, the 1-day tenor is conducted as fixed rate tender at the policy rate, while the Term BRP (7-day, 14-day and 1-month) transactions are conducted as variable rate tender in the form of spreads against the policy rate. If the MPC adjusts the policy rate within the duration of such Term BRP transactions, the interest rate charged or earned on those transactions will adjust by an equal amount from the MPC date.

The BRP transactions are carried out with BRP PDs every morning.⁴ BRP PDs effectively act as liquidity adjustment intermediaries between BOT and other financial institutions. This scheme has fostered financial market development by stimulating interbank activities, via both private repurchase market and uncollateralized interbank market, and by encouraging financial institutions to implement best market practices with regards to their interbank transactions.

³ Total absorption outstanding includes the outstanding of BOT bonds and bills (excluding BOT bonds held by the BOT), bilateral repurchase transactions, foreign exchange swap transactions and end-of-day deposit facility.

⁴ Major portfolios under BOT management include liquidity portfolio, investment portfolio, and long-term investment portfolio.

In 2016, the net absorption amount through BRP transactions increased by 258.6 billion Baht. The outstanding amount at the end of the year was 1,377.3 billion Baht, approximately 25 percent of total absorption outstanding. More than half of the BRP outstanding was of the overnight tenor.

Starting from November 2016, the BOT granted the option for BRP PDs to terminate BRP contracts prior to the original maturity date. This helps enhance BRP PDs' flexibility in managing liquidity in time of needs. Fee for early termination is charged at 0.50 percent per annum for the remaining maturity. Approval for early termination request is subject to BOT's discretion.

(3) Foreign exchange swap transactions

The foreign exchange (FX) swap is a supplementary absorption tool. The BOT utilizes this instrument in a fairly flexible manner, depending broadly on market conditions and needs. In 2016, FX swap outstanding increased by 491.8 billion Baht, reaching 900.5 billion Baht by the year-end, which was equivalent to USD 25.5 billion or approximately 17 percent of total absorption outstanding.

(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. The BOT mainly conducts outright purchase operations on government securities due to their high liquidity in secondary market. Despite 62.9 billion Baht total outright purchases in 2016, the BOT's portfolio decreased by 90 billion Baht as part of the bonds held by the BOT matured.

In addition to the open market operations mentioned above, the BOT also provides an overnight standing facility called the "End-of-Day Liquidity Adjustment Window." The BOT stands ready to lend to or accept deposit from financial institutions at the policy rate plus or minus 50 basis points, respectively. This mechanism serves as an interest rate corridor to limit short-term money market rates volatility. The Deposit Facility transaction volume averaged 18.4 billion Baht per day in 2016

2.2 Financial Market Development

Under rapidly changing market environment, as well as increased competition in and complexity of the Thai financial markets, the BOT has undertaken efforts to establish market standards in order to ensure confidence in and sustainable development of Thai financial markets.

(1) Treasury Dealer Certification

In order to establish market standards and develop human resources in the foreign exchange and money market, the Thai Financial Markets Committee endorsed a collaboration between the BOT, the Thai Bankers' Association (TBA) and the Association of International

Banks (AIB) in launching the “Treasury Dealer Certification Program.” From September 1, 2017 onwards, treasury sales, dealers and traders who are directly engaged in the wholesale foreign exchange and money market in Thailand will be required to pass a three-module examination comprising “Basic Technical Knowledge”, “Ethics and Code of Conduct” and “Regulations and Monetary Operations.” In order to ensure smooth transition and limit the impact on the industry at the beginning stage, a grandfather policy will be applied to experienced Treasury sales, dealers and traders which allow them to be certified by attending required training courses instead of taking the examinations.

The Treasury Dealer Certification must be renewed every 3 years by completing relevant refresher courses.

(2) Improving Short-Term Interest Rate Benchmark (THBFIX)

The BOT has been in the process of improving the benchmark determination process for the short-term interest rate, THBFIX, by shifting the submission methodology away from the current survey-based to transactions-based methodology. The new methodology will help strengthen credibility and promote market transparency by minimizing the use of discretion in the benchmark determination process which is in line with the international standard. THBFIX is the implied Thai baht interest rate calculated from the USD/THB foreign exchange swap transactions.

2.3 Reserve Management and Operations⁵

International reserves operation by the Bank of Thailand is based on the principle of prudence, financial soundness, and liquidity. In order to achieve a desirable return within the investment and risk guidelines, the Bank has closely monitored economic and financial developments of the invested countries, anticipated the movement of foreign exchange rates, interest rates, and asset prices, as well as, assessed the risk environment to create opportunities to achieve higher returns and lower overall financial risk.

The Bank aims to diversify investment risk in the portfolio by increasing countries and asset classes in the investment universe. In 2016, the National Legislative Assembly has approved the amendment of the 2008 Royal Decree of the Bank of Thailand (the fourth edition) which includes the Exchange-Traded Funds (ETFs) or foreign equity securities issued by foreign juristic persons as parts of the Bank investment universe.

To enhance reserve management efficiency, the Bank has adopted various types of analytic tools such as quantitative and macroeconomic modeling to assess structural changes in invested assets and countries, as well as, to broaden the asset universe under both internal and external management.

In addition, the Bank has also developed reserve management guidelines and investment tools to enhance returns, reduce risk, and minimize operating expenses to serve the Bank of Thailand Board’s guidelines.

⁵ Major portfolios under BOT management include liquidity portfolio, investment portfolio, and long-term investment portfolio.



2.4 Relaxation of Foreign Exchange

The Bank of Thailand has been entrusted by the Ministry of Finance with the responsibility of administering foreign exchange. The governor of the Bank of Thailand shall appoint the officials of the Bank of Thailand as the Competent Officers under the Exchange Control Act (B.E. 2485). The objectives of the Exchange Control Act are in order to (1) centralize foreign exchange of the country (2) channel foreign exchange for public benefit (3) monitor capital outflows and (4) to stabilize the value of Baht.

Relaxation of Exchange Control in 2016

aimed at facilitating investment abroad and private sector's foreign exchange transactions which can be summarized as follows;

1. Relaxation on qualifications and regulations of Money Transfer Agents in order to provide more flexibility in undertaking cross-border transfer business as follows;
 - 1.1 relaxed qualifications of the Money Transfer Agents license applicants such as allowing e-payment service providers with at least 100 million baht of paid-up registered capital and a reliable international money transfer network to apply for the money transfer agent license,
 - 1.2 allowed Money Transfer Agents to provide cross-border transfer services via an electronic system such as websites or mobile applications,
 - 1.3 increased the limit of transferring money abroad from previously USD 2,000 per person per day to 200,000 Baht per person per day.
2. Other relaxations to provide more flexibility for residents in conducting foreign currency transactions which can be summarized as follows;

- 2.1 allowed residents to make or receive payments with respect to derivatives transactions linked foreign variables (excluding Thai Baht exchange rates) in foreign currencies to/from their counterparty commercial banks,
- 2.2 allowed residents to pay fees relating to foreign currency loans borrowed from commercial banks and fees for Foreign Currency Deposit accounts opened with commercial banks in foreign currency,
- 2.3 amended the required documents to be submitted to commercial banks regarding purchase, exchange or withdraw foreign currency with/from commercial banks for payment of services and credit card or debit card obligations to non-residents.
3. Allowed institutional investors to invest in debt securities denominated in foreign currency and embedded with derivatives link to Thai Baht exchange rates which are issued and offered in Thailand.
4. Allowed retail investors to invest in debt securities denominated in foreign currency and embedded with derivatives link to Thai Baht exchange rates which are issued and offered in Thailand.
5. Allowed Qualified Investors who are individuals or companies with deposits and securities investment of at least 100 mil Baht to invest in securities abroad without the need to go through local intermediaries up to USD 5 million per person per year in order to provide more flexibility and portfolio diversification for Thai investors.
6. Allowed Treasury Centers to issue debt securities denominated in foreign currency in Thailand or abroad for fund raising and to invest in debt securities denominated in foreign currency which are issued in Thailand.

Thai Direct Investment

Thai Direct Investment (TDI) figures for the first 10 months of 2016 amounted to 11,188.76 million US dollars, an increase of 2.5 times from the same period in 2015. This rise was mainly due to increased investment from the private sector and state-owned enterprises investing overseas to penetrate new markets, expand manufacturing bases, seek new resources and labor, as well as diversify risks.

Thai Direct Investment					
Unit : Million US Dollars					
	2013	2014	2015	Jan - Oct. 2015	Jan - Oct. 2016
Thai Direct Investment (Net TDI)	12,121.49	5,741.75	4,991.04	3,116.84	11,188.76
(yoy% change)	-15.00%	-52.63%	-13.07%	-50.66%	258.98%

Source: Bank of Thailand

Foreign Currency Transactions between Authorized Juristic Persons⁶ and Customers in 2016

Transactions for Trade Purposes see details in the following table

Types of transactions by exporters (in descending order)	Types of transactions by importers (in descending order)
(1) selling foreign currency proceeds in exchange for Baht	(1) selling Baht in exchange for purchasing foreign currency
(2) depositing proceeds into foreign currency accounts	(2) withdrawing from foreign currency accounts
(3) receiving proceeds in Baht from nonresidents	(3) paying in Baht to nonresidents
(4) netting proceeds with nonresidents	(4) netting proceeds with nonresidents
(5) not selling or depositing proceeds but rather transferring proceeds as loan repayments to Authorized Juristic Persons	(5) borrowing in the form of foreign currency loans from Authorized Juristic Persons
(6) not selling or depositing proceeds but rather transferring proceeds to pay for other goods.	(6) not selling or depositing proceeds but rather transferring proceeds to pay for other goods.
Total export value: 215,085 million US dollars, an increase of 0.34% from the previous year	Total import value: 193,572 million US dollars, an decrease of 4.48% from the previous year
Total export proceeds: 216,600 million US dollars, an increase of 6.29% from the previous year	Total import value: 191,378 million US dollars, an increase of 2.58% from the previous year

Note : The figures for 2016 are a 12-month estimate based on 11 months of real data.

Source : Customs Department, Bank of Thailand

Volume of Transactions see details in the following table

Purchase and Sale of Foreign Currencies between Authorized Juristic Persons and Customers			
Unit : Million US Dollars			
	2015	2016 ^{e/}	Change (%)
Purchase	688,981.21	716,839.22	4.04
Exports	113,142.35	115,480.96	2.07
Other	575,838.86	601,358.25	4.43
Sale	688,068.14	723,670.29	5.17
Imports	136,349.87	127,851.86	(6.23)
Other	551,718.27	595,818.43	7.99
Net Purchase (Sale)	913.07	-6,831.07	
Good	-23,207.52	-12,370.89	
Other	24,120.59	5,539.83	

Source : Based on Data Set recieved from Authorized financial institutions

Note : ^{e/} Estimate

⁶ Authorized Juristic Persons: means commercial banks and juristic persons established by specific laws, authorized to transact business relating to foreign means of payment including the purchase/sales, deposit/withdrawals, and lending of foreign currencies.

Moreover, the Bank of Thailand's Financial Assistance to Emergency Program in 2011 (Soft Loan Program) according to the Emergency Decree B.E. 2555 authorized the Bank of Thailand to financially assist those that were affected by the 2011 flood. The Decree has empowered the Bank of Thailand to periodically extend a low-interest credit scheme (Soft Loan) to flood-affected victims a total of 300,000 million baht of which 70 percent or 210,000 million Baht were extended by the Bank of Thailand and the rest by financial institutions. The program shall end by the year 2018.

The total loan outstanding at the end of 2016 stood at 109,209 million baht net covering 321,177 victims in all provinces. The loan served retail customers that truly need assistance and thus, followed through the spirit of the law.

3. Maintaining financial institutions system stability

3.1 Issuance of regulations for financial institutions

The BOT has issued and amended regulatory notifications in order to ensure resilience and sound risk management that is in line with international standards. In addition, the BOT has also promoted operational efficiency of financial institutions appropriate to the changing business operations and circumstances.

(1) Ensuring resilience and sound risk management of financial institutions

(1.1) Preparation for the Financial Sector Assessment Program (FSAP): The BOT, the Fiscal Policy Office, the Securities and Exchange Commission and the Office of Insurance Commission have mutually agreed to participate in the FSAP between the fourth quarter of 2018 and the first quarter of 2019. In this regard, a working group comprising representatives from relevant financial regulators was established to collaboratively prepare for the FSAP. Participating in the FSAP would increase the confidence in Thailand's financial system stability as well as enhance the financial supervisory framework to be in line with international standards. In addition, the BOT has invited experts from the International Monetary Fund (IMF) and other central banks to share information and experiences on the FSAP assessment with relevant financial regulators. On 27th December 2016, a letter of intent to participate in the FSAP was officially sent to the IMF.

(1.2) Issuance of the consultative document on the Net Stable Funding Ratio (NSFR) requirement:

The consultative document on the NSFR requirement specified that commercial banks need to maintain a stable funding profile, relating to their asset composition. This is to ensure that commercial banks can remain resilient under long periods of tightening liquidity condition and can sustainably support economic activities. The BOT will take stakeholders' comments into account and assess the need to revise the regulations.

(1.3) Amendment of regulations on finance companies and credit foncier companies: The BOT revised regulations for finance companies and credit foncier companies to strengthen regulatory standards and to improve risk-sensitivity. The revisions are as follows: (1) capital adequacy requirement including minimum capital requirements, capital buffers

and disclosure requirements, (2) liquidity risk management standards including Liquidity Coverage Ratio (LCR) and liquidity risk management guideline, and (3) operational risk management requirement including operational risk management guideline and business continuity plan. These regulations will be phased in starting from 1st July 2017 onwards.

(1.4) Preparation of Effective Resolution Framework for financial institutions in financial crisis:

The BOT has proposed Draft Bank of Thailand Act (No. ..) B.E. to the Ministry of Finance in April 2016 to support the resolution of the financial institutions facing financial crisis (substitute for the expired Section 19 of Bank of Thailand Act (No.4) B.E. 2551). This is to establish transparent mechanism and procedure for the resolution of financial institutions facing financial crisis, which may seriously endanger the stability of economic and monetary system. The principle stated in the Draft Bank of Thailand Act has been approved by the Cabinet on December 7, 2016.

(1.5) Conducting Recovery Plan Pilot Program:

The BOT has conducted Recovery Plan Pilot Program to ensure that financial institutions are properly prepared to deal with crisis events and this is consistent with international practices. The pilot recovery plan comprises five main sections: 1) executive summary, 2) analysis of financial institution's profile, 3) analysis of business strategy and recovery strategy, 4) analysis of preparatory measures, and 5) communication plan. The six financial institutions participating in the pilot program are four large banks, one medium-sized bank and one small bank. After conducting the pilot program in 2017, results from pilot recovery plans and responses from the participant institutions will be incorporated in developing the Guidance on Recovery Planning for commercial banks.

(2) Enhancing efficiency in business operations of financial institutions

(2.1) Amendment of Regulations on IT Outsourcing Service Providers for Business Operations of Financial Institutions:

The BOT revised the regulations on IT Outsourcing to provide more flexibility for financial institutions to use Cloud Computing services from service providers, as there has been an increasing demand for the service. The BOT issued different supervisory regulations for different types of Cloud Computing services. Moreover, the BOT placed supervisory emphasis on the associated risks such as risks from storage and processing of critical data.

(2.2) Amendment of Regulations on Acceptance of Deposits or Money from Customers:

The BOT revised the Regulations on Acceptance of Deposits or Money from Customers to support the increasing demand for electronic transactions and allow more flexibility in account opening.



The main revisions are as follows: (1) prescribing the Regulations on Acceptance of Deposits or Money from Customers via the Electronic-Know Your Customer (E-KYC) which requires banks to conduct identification and verification of customers under equivalent standards to those done via face-to-face KYC, (2) setting higher standard of customer verification by using related technology to reduce potential risk of fraud in account opening, and (3) defining customer's types, data, and identification documents, which are consistent with guidelines and practices of the Anti-Money Laundering Office (AMLO) in order to reduce the operational burden of financial institutions.

- (2.3) Amendment of Regulations on Permission for Commercial Banks to Provide Electronic Money (e-Money) Services:** The BOT revised the regulations on e-Money to support development and increasing demands for e-Money services; consistent with other related laws, such as the Laws and Regulations governing Electronic Payment Services, and the Notifications of the Electronic Transactions Commission on Requirements, Procedures and Conditions for Undertaking Electronic Payment Service Businesses. The regulations also require commercial banks to comply with the following rules: (1) establish e-Money service policy, (2) sufficiently and effectively manage advances received from customers (float) to accommodate customer transactions, and (3) report to the BOT and inform customers when service system is shutdown.
- (2.4) Amendment of the Regulations on Financial Institutions' Investment in Private Equity Trust and Financial Consolidated Group's Venture Capital and Financial Technology (FinTech) Businesses:** The BOT revised the Regulations on Financial Institutions' Investment by extending limits on investing in private equity trust. The BOT is also reviewing the Regulations on Venture Capital and FinTech Businesses of Financial Consolidated Group. The objectives are to increase unlisted companies' access to alternative funding, especially for SMEs and FinTech firms, and to enhance effective development of financial services provided by financial institutions and financial consolidated group.
- (2.5) Supporting adoption of new technologies in financial service industry:** BOT has published Regulatory Sandbox Guideline, which is a concept of having accommodative environment where financial innovations can be tested with real consumers in limited scope, to promote experimentation of FinTech innovations, protect consumer rights, maintain acceptable risks and preserve financial system stability. Moreover, in order to promote various and convenient accesses to financial services and new sources of fund, the BOT is currently drafting regulations on Peer-to-Peer Lending business, considering opinions received from public and related parties.
- (2.6) Amendment of Regulations on Permission for Commercial Banks to undertake Private Repurchase Transactions (Private Repo):** The BOT revised the Regulations on Permission for Commercial Banks to undertake Private Repo by extending scope of business transactions outside the scope set in the BOT Notification. Commercial banks are to submit applications to the BOT on a case-by-case basis and the BOT may set additional rules and conditions upon approval.
- (2.7) Amendment of Regulations on Asset Classification and Provisioning of Financial Institutions:** The BOT revised the Regulations on Asset Classification and Provisioning of Financial Institutions, and Regulations on Appraisal of Collateral and Foreclosed Properties obtained from Debt Payment,

Provision of Security for Credits Guarantee, or Purchased at a Public Auction. Such revision allowed the regulations to be in line with the Business Collateral Act B.E.2558 (2015). It also increased business' access to funding by permitting more types of collateral that can be deducted from the loan value before provisioning. For example, SME business and non-contractual claims are now eligible types of collateral. Moreover, the regulations broadened the scope of external appraisers for business entities and intellectual properties to include: (1) enforcement officers with asset valuation expertise, (2) financial advisers as approved by the Securities and Exchange Commission, and (3) chartered public auditors with asset valuation expertise.

(2.8) Accounting requirement for financial institutions: According to the amendment of Thai Accounting Standard (TAS) no. 27 "Separate Financial Statements", the equity method is accepted as an accounting option for investments in subsidiaries, joint ventures and associates in the separate financial statements. Previously, only the cost method was allowed. The BOT issued a circular to financial institutions to apply the equity method to account for those investments for accounting periods beginning on or after 1st January 2017. The equity method will reflect true performance of the financial institutions and ensure standardization of accounting

(2.9) Amendment of Regulations on Undertaking Personal Loan Business under Supervision: The BOT revised the Regulations on Undertaking Personal Loan Business under Supervision for Financial Institutions and Non-Banks. The main amendments are: (1) extending the scope of "Personal loan" to include loans for business operations in order to promote access to the loans at the interest rate of personal loans, which is lower than the interest rate of Nano-Finance, (2) requiring additional report for personal loans for business purposes, and (3) revising other regulations for non-banks to be in line with the Regulations on Nano-Finance Businesses under Supervision.

(2.10) Amendment of Regulations on Asset Management Company (AMC) Business: The BOT proposed to amend the Regulations on AMC business in order to promote effective management of non-performing assets (NPAs) and household debts. Under the proposal, AMCs will be allowed to purchase, transfer, and manage the NPAs acquired from government agencies and non-banks, such as credit card businesses and personal loan businesses under supervision. AMCs will also be able to provide asset management consulting services, such as debt restructuring and debt mediation. Moreover, the BOT will supervise corporate governance of AMCs to promote business transparency. The Ministry of Finance has agreed to the proposal. The BOT and the Fiscal Policy Office have drafted the amendment of the Emergency Decree on Asset Management Companies, B.E. 2541, which was reported to the BOT Board on 21st December 2016.

(3) Financial Sector Development

The Cabinet approved the Financial Sector Master Plan Phase III (FSMP III) for the years 2016-2020 in March 2016. The implementation progress of the FSMP III in 2016 can be summarized as follows:

(3.1) Promoting electronic financial and payment services and enhance efficiency of the financial system ("Competitive"): The BOT, in collaboration with commercial banks and Specialized Financial Institutions (SFIs), developed "PromptPay" to create more options and convenience of fund transfer. The BOT also issued the Regulatory Sandbox guidelines to promote financial innovation.

(3.2) Promoting greater financial access (“Inclusive”): The BOT has collaborated with the National Statistical Office of Thailand in undertaking the 2016 household survey on financial access and financial literacy. In addition, the BOT has drafted regulations on peer-to-peer lending to increase financial access for households and SMEs. Moreover, the BOT has encouraged the National Credit Bureau (NCB) to expand its members both in terms of number and type, as well as providing financial institutions a bureau score service for better credit risk assessment.

(3.3) Facilitating regional trade and investment connectivity (“Connected”): The BOT signed the Letter of Intent to initiate bilateral negotiations on the establishment of Qualified ASEAN Banks (QABs) with Indonesia, Malaysia and Myanmar. The BOT is currently negotiating with Indonesia and Malaysia on the details regarding QABs establishment.

(3.4) Developing financial infrastructures (“Sustainable”): The BOT has advocated for the inclusion of financial literacy as one of the measures in the 12th National Economic and Social Development Plan. Moreover, the BOT is in the process of tightening regulations on financial products offering and preparing for participation in the Financial Sector Assessment Program (FSAP)

Thai commercial bank’s branches in Asia



(4) Financial Institutions Policies in International Fora:

The BOT participated in the eighth round of negotiations on financial services liberalization under the ASEAN Framework Agreement on Services (AFAS). In negotiating with Indonesia and Malaysia regarding the establishment of Qualified ASEAN Banks (QABs), the BOT has exchanged initial requests and offers. In November 2016, the BOT also signed a Letter of Intent initiating bilateral negotiations with Myanmar. In addition, the BOT played an active role in determining key performance indicators to measure the achievements of banking integration under the ASEAN Banking Integration Framework.

The BOT has actively engaged in and provided suggestions on issues regarding the revisions of prudential standards at several international fora, such as, Supervision and Implementation Group (SIG), Basel Consultative Group (BCG), Task Force on Standardized Approach (TFSA) and Executives’ Meeting of East Asia Pacific Working Group on Banking Supervision (EMEAP WGBS).

(5) Readiness preparation to enter the Financial Sector Assessment Program (FSAP) in Banking Supervision

The Financial Sector Assessment Program (FSAP) in Banking Supervision in accordance with the criteria of Basel Core Principles for Effective Banking Supervision 2012 (BCP).

According to the results of the self-assessment, actions for closing the gap due to non-compliance with each Core Principle include setting as issues in the scope of examination, improving Electronic Working Paper System (EWP), encouraging examiners to input complete information into EWP system, and updating the examination manual. Those actions has been proposed to the management of Supervision Group and the meeting was held to inform examiners.

3.2 Supervision, Examination and Analysis of Financial Institutions

The BOT focuses on the stability of individual FI and the financial system and the capability to prevent problems that might occur as well as to determine remedial measures in a timely manner. In order to achieve as mentioned above, the supervisory policies are established as follows.

Examination approach is in line with international practice. the BOT conducts on-site examinations for assessing risks of Significant Activities (SA) that have impact on financial condition, performance, strategy and management of FI such as lending, treasury, asset and liability management and information technology systems. Thematic examinations and special analysis were conducted in the area of internal audit practices, compliance with regulations, anti-money laundering and combating the financing of terrorism, and economic impact analysis. The BOT instructed Thai commercial banks to conduct supervisory stress test under scenarios designed by the BOT to assess potential impact of the domestic economic slowdown. The overall commercial banking system was able to maintain adequate capital buffers to cope with adverse impacts under stress scenarios and the liquidity coverage ratio (LCR) were higher than the BOT minimum requirement. In addition, Thai commercial banks were also required to assess the impact of Prolonged Economic Slowdown (PES) on their loan portfolios for 5 consecutive years from 2016-2020.

To enhance the efficiency of overall examination of individual FI and strengthen the capability of examiners, the examination and analysis process was altered for accommodating on-going supervision approach by combining functions of on-site examination and off-site analysis under the same department and function of FI application was transferred to the FI Policy Group.

In order to more effectively supervise Specialized Financial Institutions (SFIs) similar to those applied to commercial banks, the BOT has issued regulatory framework and amended related law. Moreover, in order to promote cooperation and clearly define roles and responsibilities of each authority, the BOT held meeting with the Fiscal Policy Office (FPO) and the Office of the State Enterprise Policy (SEPO) to establish mission, business plan, and supervisory oversight, which were submitted to the Minister of Finance for consideration.

In resolving personal debt, the BOT, together with the Thai Bankers' Association, has set up a working group to study the resolution approach of credit card and unsecured personal debts in order to provide an opportunity to retail customers who have debt repayment problems to get out of debt (corrective measure) along with promoting financial discipline to prevent the economic and social problems (preventive measure). At the first stage, Thai commercial banks and foreign bank branches will join the program, which is expected to begin by the second quarter of 2017.

To support commercial banks in planning and managing risk arising from SMEs lending and to enhance the potential of SMEs to access credit, the BOT has developed an SME database to provide aggregate data back to commercial banks and the database is being expanded to include data from SFIs, which is expected to be completed in 2018.

To enhance the stability of FIs system, the BOT studied and analyzed the risks of saving and credit cooperatives system and the Federation of Savings and Credit Cooperatives of Thailand. Recommendation for policy reform was proposed to involved government agencies in the area of (1) the amendments of the law (2) the issuance of regulatory framework (3) the infrastructure reform of regulatory authorities and (4) the establishment of liquidity management center in the cooperative system. The BOT also provided technical assistance to cooperative supervisory authorities, such as, developing supervisory rules and regulations, supporting the development of financial databases, providing training courses and resources speakers

To promote an understanding and cooperation among involved agencies, the meetings held in 2016 were (1) the presentation to the FIs management on the overall banking industry supervision and key audit findings found in 2015 including examination approach in 2016, (2) the presentation on strategic and business plans by FIs (3) the symposium on “SFIs in the new edition : Role of Financial Inclusion for Inclusive and Sustainable Growth” to raise awareness on the roles of SFIs in driving the Thai economy in accordance with the BOT strategic plan on financial stability, (4) Supervisory College with regulators of foreign countries where subsidiaries, branches or representative offices of Thai FIs are located in order to share information and opinions, and promote cooperation for further improvement of subsidiaries and foreign branches.

To prepare for responding with challenges in a rapidly changing environment, the organization structure of Supervision Group was altered by establishing a new department named Financial Consumer Protection and Market Conduct Department and separating the Risk Management and Information Technology Department into two departments; namely, the Risk Assessment and Modeling Department under the Supervision Group, and the Information System Examination Department under the Payment Systems Policy and Financial Technology Group.

Significant results of policies implementation as mentioned above:

(1) Examination of Financial Institutions

FIs' lending practices were more stringent and prudent due to economic downturn, while the efficiency of risk management, especially credit risk, was improved. Results of supervisory stress test showed that Thai commercial banking system maintained adequate capital buffers to cope with adverse impacts under stress scenarios and the liquidity coverage ratio (LCR), which requires banks to have sources of cash sufficient to cover their expected outflows over the crisis period, were higher than the BOT minimum requirement. Nevertheless, operational risk and noncompliance with internal policies and regulations remained the important issues in some FIs. Therefore, the Supervision Group conducted Thematic Examination on the internal audit practices and compliance with regulations as mentioned above and recommended FIs to improve the efficiency of thier related operations.

Table 6 Number of FIs Examined by the BOT in 2016

Financial Institution	Number of FIs
Thai Commercial Banks / Retail Banks	15
Foreign Bank Branches	4
Subsidiaries	2
Finance and Credit Foncier companies	4

Financial Institution	Number of FIs
Specialized Financial Institutions	8
Asset Management Companies	3
Non-banks operating credit card business and personal loans	6
Total	42

(2) Financial Institutions Monitoring and Analysis

The BOT analyzes and monitors financial position, performance and risk profile of FIs' significant activities including firms within their financial groups that would have an impact on the stability of individual FI and overall FI system. Special studies and analysis were conducted on world economic situation and prospects in case of the UK leaving the EU (Brexit), the impact of China's economy on domestic economy such as the recovery of the hotel business due to the growth in tourism, lending to automobile industry due to the growth in exports, renewable electricity generation business promoted by the government, high growth in the life insurance business, the impact of economic slowdown on SMEs, and redemption risk of unrated bonds.



(3) Study on Examination of Corporate Behavior and Culture

This approach was initiated by the De Nederlandsche Bank (DNB) and considers that behavior and culture influence decision-making process and leadership style. The examination approach focuses on assessing the overall organizational behavior and culture such as decision-making process, leadership style and corporate culture. Trial implementation in accordance with such approach was conducted with 15 Thai commercial banks, while such test for SFIs is in the process. In 2017, the BOT plans to continually communicate information and enhance knowledge to those involved.

(4) Supervision of Specialized Financial Institutions (SFIs)

The BOT has issued SFIs regulatory frameworks, which were approved by the Minister of Finance and held the meeting to clarify to related agencies. The regulatory frameworks cover 6 areas including governance, capital requirement, liquid assets maintenance, loan approval process, single lending limit, and standards of accounting and disclosure. Most frameworks came to effect starting on January 1, 2017, with an exception of regulations regarding the preparation and disclosure of financial statements which were effective since the second quarter of 2016.

In order to effectively supervise SFIs similar to those applied to commercial banks, the BOT has pushed forward an amendment to section 120 of the Financial Institutions Business Act BE 2551, which the Cabinet has already approved. The next step will be the consideration of the Council of State and the National Legislative Assembly (NLA) respectively.

(5) Meetings and Clarifications

- (5.1) The meeting with senior management of Thai commercial banks and SFIs to discuss on strategic plan, business plan, operation of SFIs in accordance with their mandates, factors that might have impact on their business and adaptation of FIs. These factors included domestic and international economic conditions, business innovation, especially Fintech, government policies on SFIs' operations, and IT system infrastructure to support the changes in technology and cyber security.
- (5.2) The presentation to FIs senior management on the approach and results of FIs' examinations and to enhance an understanding on other important issues such as the development and challenges in Thai financial system, and the progress in implementing the FI e-Application system.
- (5.3) The symposium on "SFIs in the new edition : Role of Financial Inclusion for Inclusive and Sustainable Growth" on August 23, 2016 in order to raise an awareness on the roles of SFIs in driving the Thai economy and create a good relationship among the BOT, government agencies, and SFIs.
- (5.4) The Supervisory College on 4 - 5 July 2016 for discussion among domestic and foreign regulators from countries where subsidiaries, branches and representative offices of Thai commercial banks are located. The issues discussed in the meeting were an overview of the Thai economy and assessment on financial stability, regulatory and supervisory framework for further improvement of oversea branches.
- (5.5) The meeting to clarify supervisory framework for Asset Management Company (AMC) on 17 November 2016.

4. Payment Systems Stability

The BOT has been working in accordance with the Payment Systems Roadmap 2012-2016, to enhance the efficiency and safety of the national payment systems. Moreover, it has strengthen the oversight role on payment systems to comply with international standards, with the aim to enhance efficiency, mitigate risk and protect consumers. The main activities in 2016 can be summarized as follows:

4.1 Enhancing efficiency in Payment Systems

(1) Promotion and Development of e-Payment Services

(1.1) Main activities under the National e-Payment Master Plan

The BOT has participated in formulating the government's National e-Payment Master Plan, which aims to develop Thailand's payment systems into an entire comprehensive, integrated and sustainable e-Payment. At present, the BOT assumes the role as a committee member and co-secretary with the Revenue Department in the National e-Payment steering

committee, which chaired by the Deputy Prime Minister, and is responsible for driving the implementation of projects under the Master Plan. Moreover, the BOT serves a major role in PromptPay funds transfer and card usage expansion sub-steering committee, which is chaired by the Governor of the BOT.

PromptPay funds transfer service has been launched in phasing, starting first with the government transactions. The Comptroller General's Department has started to use PromptPay in disbursing child support grant since 8 December 2016, while the Revenue Department refunded personal income tax since 4 January 2017. It is expected that PromptPay will extend to payments of other state welfares in the future. For individual transactions, as the second phase, the service has been launched since 27 January 2017. Nonetheless, the Thai Bankers Association still plan to launch PromptPay for business transactions and add-on services such as Request to Pay, and Bill Payments in 2017.

On the card usage expansion, the Ministry of Finance released an announcement on 28 December 2016, inviting payment service providers into the selection of authorized EDC installers, for which the selection will be held in February 2017. The authorized EDC installers are expected to complete installations at government agencies within September 2017, and complete the installations at businesses, and individuals who registered for VAT within March 2018.

(1.2) The development of National Payment Message Standard: NPMS

The BOT, The Electronic Transactions Development Agency (Public Organization) (ETDA), National ITMX Co. Ltd. (NITMX) and representatives from financial institutions and businesses, have jointly established NPMS message standards for bulk payment transactions between financial institutions (FI-to-FI bulk payment) in compliance with International Organization for Standardization (ISO) 20022. The FI-to-FI bulk payment NPMS was announced by the Electronic Transactions Commission (ETC) as the national standard on 7 March 2016. Currently, commercial banks have been considering a suitable timeframe in adopting the standard.

(1.3) The development of QR Code standard for bill payments and funds transfer

The BOT has collaborated with representatives from commercial banks, non-banks, and large corporates that issue high volume of bills, to establish QR Code guideline that will be used for non-card transactions such as bill payments and funds transfer services via smartphones. The guideline will provide individuals, businesses and SMEs with greater convenience, having contained information needed for issuing receipt/tax invoice in accordance with the regulation by the Revenue Department. The QR Code guideline will accommodate person-to-person funds transfer and bill payments at the Point of Sale/ e-Commerce. At present, the BOT has arranged meetings and public hearings to gather views from all concerned stakeholders in drafting this guideline. It is therefore expected to be released within the first quarter of 2017.

(1.4) The enhancement of security standard for debit cards that are issued and used domestically, and the promotion of effective competition

The BOT proposed to issue ETC Notification, which specifies requirements for service providers related to debit cards that are issued and used domestically, to promote competitiveness and to facilitate co-badge card issuance, as well as to encourage debit card usage instead of cash. The law stipulates debit card issuers to use the common chip card standard and domestic card network. Moreover, the BOT issued the Notification, stipulated Thai Bank Card Standard as the common chip card standard for debit card issuers.

(2) Payment systems development to support ASEAN Economic Community 2016-2025

The BOT, in collaboration with ASEAN central banks through Working Committee on Payment and Settlement Systems (WC-PSS), has formulated a strategic framework for payment systems development in the region for 2016-2025, in three main areas: 1) Payment Systems Interlinkages and Interoperability; 2) Cross-border Capital Market Settlement; and 3) Policy Harmonization and Standardization to promote crossborder retail payments via new and lowcost channels or service providers, as well as to exchange information among member countries in the areas of risk management relating to cross-border payments, oversight framework, and preparation of payment systems to be compliant with PFMIIs.

The BOT has proceeded through WC-PSS to encourage cross-border payments via potential bank and non-bank service providers, to improve regulatory and oversight framework to facilitate cross-border payments, and to promote alignment of rules and regulations, in order to foster safe and efficient alternative payment channels.

4.2 Risk reductions in payment systems

(1) FX settlement risk reduction

The BOT, upon approval of the Payment Systems Committee (PSC), considered settlement mechanisms and developed a Payment versus Payment (PvP) system for same-time settlement of foreign exchange transactions by financial institutions in order to mitigate foreign exchange settlement risk.

The BOT together with the Hong Kong Monetary Authority (HKMA) developed a linkage between the BAHTNET system and the US Dollar Clearing House Automated Transfer System (USD CHATS), to settle Thai Baht against US Dollar in PvP system. Recently, the BOT has decided to bring the BOT's FX transactions; OTC USD/THB Swap (excluding e-Swap transactions) to settle in the USD CHATS. The BOT has enhanced internal systems, conducted preliminary test with the selected USD settlement agent, and bilateral tests with BOT's counterparties in December 2016. It is expected that the FX settlement in USD CHATS will start at the beginning of 2017.

(2) Oversight of payment systems in compliance with international standard

The BOT, upon approval of the PSC, has used the Principles for Financial Market Infrastructures (PFMIIs) as the guideline for the oversight of Thailand's payment systems, including Systemically Important Payment Systems: SIPS, which is the BAHTNET system, and Prominently Important Retail Payment Systems: PIRPS, which comprise the Imaged Cheque Clearing and Archive System (ICAS) and the NITMX systems.⁷

⁷ NITMX systems are operated by the National Interbank Transaction Management and Exchange Co., Ltd. (NITMX) to support ATM pool, interbank fund transfers via counters and ATMs, credit transfers, local switching for debit cards that are issued and used domestically, and PromptPay system.

In 2016, the BOT published the payment systems stability report, in regard to the oversight of important payment systems in Thailand including BAHTNET, ICAS and NITMX systems. The report provides statistics and analysis on funds transfer through these payment systems, and major risks involved. Moreover, the BOT assessed the compliance of BAHTNET with PFMIs, and reported the results and proposed procedures in closing the gaps to the PSC on 22 November 2016. The results from the assessment demonstrated that BAHTNET has sufficient management for material risks, such as credit and liquidity risks, as well as sufficient communication procedures that are in line with the international standards. However, there are certain gaps need to be assessed in 2017, in order to be ready for assessment by Financial Sector Assessment Program (FSAP) which is expected to involve within the fourth quarter of 2018 or the first quarter of 2019.

(3) Security enhancement of electronic payments

The BOT, upon approval of the PSC, has set up a timeframe for the migration of magnetic cards to chip cards in order to improve the security and confidence in the use of these electronic cards. From 15 May 2016 onwards, all newly issued ATM and debit cards would be chip-based and all existing magnetic stripe cards currently in use must be transformed to chip cards by 31 December 2019.

In addition, the BOT has collaborated with the Office of The National Broadcasting and Telecommunications Commission (NBTC) to enhance the security of mobile payment services, for which the NBTC has implemented a set of the Know Your Customer rules in the event that consumers are to be issued with a new SIM card. This is to prevent unlawful activities. Moreover, the banking industry and the telecommunication network providers have cooperated to ensure the security of mobile banking and PromptPay services.



Signing Ceremony of the Memorandum of Understanding on technical cooperation between Office of the National Broadcasting and Telecommunications Commission and the BOT on 17th June 2016.

4.3 Consumer Protection

(1) knowledge dissemination and promotion of e-Payment

The BOT has disseminated e-Payment knowledge to the public through various channels, such as the BOT's Payment Systems Annual Report 2015, and the publication of articles through the BOT's Phra Siam magazine, newspapers and journals. The BOT also held exhibitions and workshops with relevant institutions, while BOT's senior executives were offered a number of media interviews. Moreover, the BOT has been disseminating information on PromptPay Funds Transfer and Card Usage Expansion projects through radio broadcast, TV and publications, as well as infographic videos and other materials presented via online channels, such as BOT's Twitter/Facebook, National e-Payment website and Financial Consumer Protection Center (FCC) website.

(2) Consumer protection

The BOT released a circular letter to request for cooperation from all commercial banks to emphasize on areas pertaining to consumers during the chip card migration period. They are encouraged to offer consumers clear, correct and comprehensive information on replacing a magnetic card with a chip card. For instance, informing consumers on cost and benefit, and that magnetic cards are still usable until the end of 2019. Moreover, consumers not only have the rights to choose the products they want, but also have the rights to obtain details regarding fees and charges.

In addition, the BOT is revising the Guiding Principles for Trusted Mobile Payments that would lead service providers to elevate their services, to gain user confidence and to encourage the usage of mobile payment. This guideline consists of crucial principles such as risk management, Know Your Customer (KYC) procedure, consumer protection and mobile payment literacy. The guideline is expected to be released in the first quarter of 2017.

4.4 Oversight of Payment Systems

(1) Draft Payment Systems Act

The BOT and the Ministry of Finance drafted the Payment Systems Act to enhance oversight of payment systems and payment services in order to be efficient, secure and reliable. The Cabinet approved this draft on 1 December 2015 and approved to repeal the Royal Decree on Regulating Electronic Payment Services B.E. 2551 (2008) and the Ministerial Notification of Ministry of Finance: Business for which permissions must be obtained according to section 5 of the Notification of the Revolution Council No. 58 (e-Money businesses) dated 4 October 2004 when the Payment Systems Act become effective. Currently, the draft Payment Systems Act had been considered by the council of State and in the process of submission to The Secretariat of the Cabinet and The National legislative Assembly respectively.

Moreover, the BOT is in the process of formulating related notifications in terms of the regulation for Systemically Important Payment Systems, designated payment systems and designated payment services, to support the Payment Systems Act when it becomes effective.

(2) The Royal Decree on Regulating Electronic Payment Services of Specialized Financial Institutions B.E. 2559 (2016)

The Royal Decree on Regulating Electronic Payment Services of Specialized Financial Institutions B.E. 2559 (2016) is to supervise e-Payment services of Specialized Financial Institutions (SFIs) in alignment of service standards to those of bank and non-bank e-Payment service providers. The law was effective on 28 July 2016.

Moreover, the BOT proposed to issue notifications of ETC and issued notifications of the BOT to supervise e-Payment services providers under the Royal Decree on Regulating Electronic Payment Services of Specialized Financial Institutions B.E. 2559 (2016) which cover the starting and conducting a business, specifying rules for each type of businesses, IT security, supervision of e-Payment services providers and consumer protection.

(3) Revision of regulations on the supervision of e-Payment service providers

The BOT revised the regulations on the supervision of e-Payment service providers under the Royal Decree on Regulating Electronic Payment Service Business B.E. 2551 (2008) and the Notification of the Revolution Council No. 58 (e-Money businesses) in order for the supervision to be appropriate with the current business environment, to mitigate risks and impacts on consumers, and to promote trustworthiness of payment systems. The essence of the amendments is as follows:

- (3.1) Revising regulations regarding the oversight of e-Payment service providers, such as stipulating financial requirements for those that wish to apply for licenses, specifying qualifications and forbidden characteristics of directors and authorized persons to be in line with the Anti-Money Laundering and Counter-Terrorism and Proliferation of Weapons of Mass Destruction Financing Laws, allowing e-Money service providers to issue e-Money in foreign currencies for international use, stipulating service providers to separate the accounts for proceeds received from customers from other operating proceeds of the service providers, revising regulations to foster flexibility and reduce burdens for service providers (regarding the opening, relocating, and closing of branches).
- (3.2) Stipulating rules for e-Payment service providers to maintain sound financial status and adequate liquidity to ensure continuous business operations without affecting consumers. In addition, service providers that are not financial institutions must maintain a certain proportion of net equity to the outstanding float amount received from customers at the end of each quarter.
- (3.3) Enhancing regulations related to agents by providing that e-Payment service providers would be liable for the service of their agents as if they are providing the service by themselves, as well as stipulating the service providers to have sound policy and credible procedures in appointing agents.

4.5 BOT's Payment System Services

(1) Imaged Cheque Clearing and Archive System: ICAS

At the end of 2016, there were 36 member banks, consisting of 19 Thai commercial banks, 11 foreign bank branches, and 6 specialized financial institutions. The total number of bank

branches (including sub-branches) was 9,862. The total volume and value of cheques cleared through ICAS were as shown below:

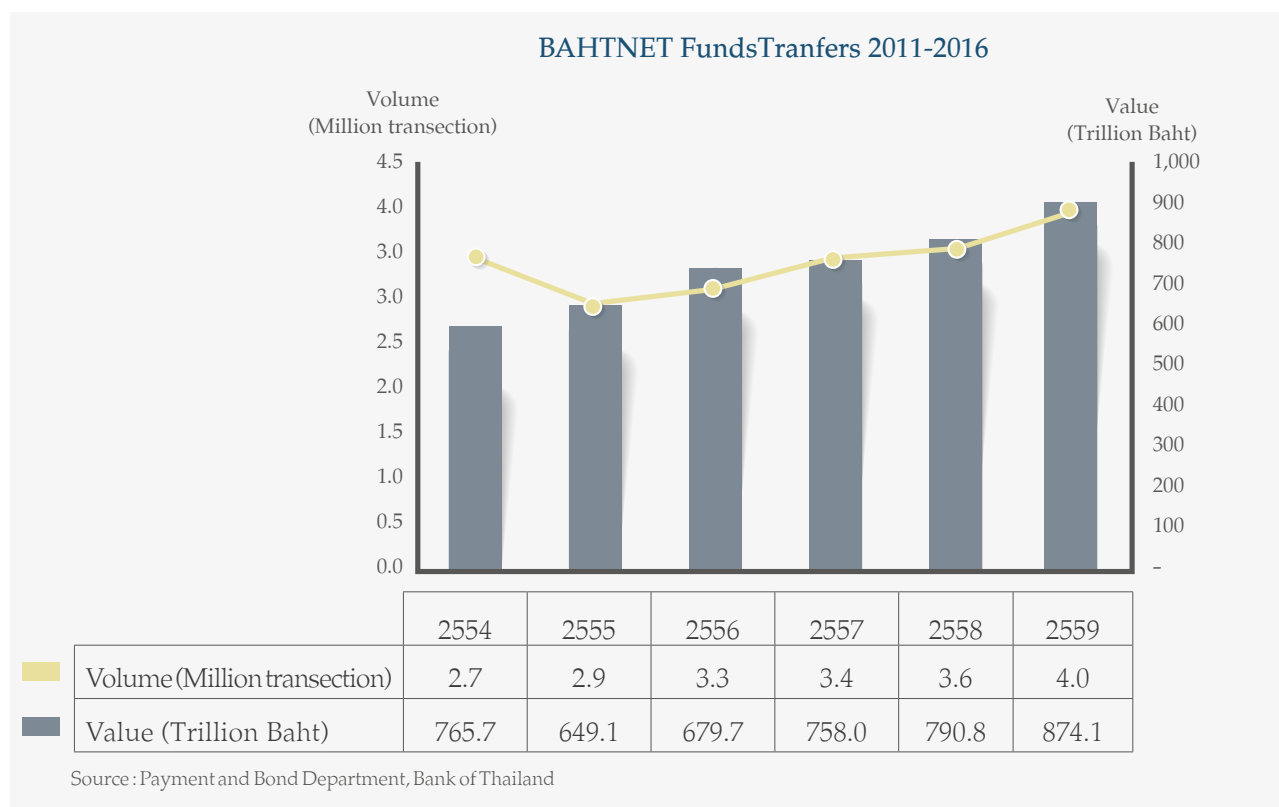
Table 7: Volume and Value of Cheques Cleared through ICAS

Cheque Status	Volume (Item)		Value (Billion Baht)	
	2016	% change	2016	% change
Cleared Cheques	69,446,751	(2.24)	37,133.21	(0.82)
Returned Cheques (proportional to total cleared cheques)	1,060,515 (1.5%)	(6.28)	202.28 (0.5%)	(8.73)
Returned Cheques due to insufficient fund (proportional to total cleared cheques)	749,287 (1.1%)	(6.21)	110.11 (0.3%)	(2.02)

(2) BAHTNET (Bank of Thailand Automated High-value Transfer Network)

As of 2016's year end, BAHTNET had a total of 65 participants, consisting of 61 direct participants and 4 associate participants. By classifying by the types of financial institution; there were 19 Thai commercial banks, 11 foreign bank branches, 11 finance and securities companies, 14 specialized financial institutions, government entities and other institutions, and 10 BOT's internal bodies.

Over a period of 5 years, the volume and value of fund transfer via BAHTNET have been continually on the rise.



Additionally, the foreign exchange settlement is done in the nature of Payment versus Payment (PvP USD CHATS) i.e., BAHT is settled in BAHTNET and USD is settled in Hong Kong's USD CHATS simultaneously. In 2016, the commencement of Financial Market Department's FX transactions has

driven the volume of PvP USD CHATS to 34 transactions with a total value of 21.2 billion Baht. Meanwhile, the usage of PvP USD CHATS is predicted to grow further in 2017. This is due to a policy to prevent FX settlement risk by bringing in BOT's FX transactions to PvP USD CHATS.



5. Banknote Issuance and Management

5.1 Banknote

Sufficient supply of clean and secure banknotes in circulation

The net value of banknotes were issued into circulation in 2016 increased by 50,000 million baht, equivalent to the value of securities transferred to the currency reserve account. At the end of 2015, assets in currency reserve account were valued at 1,709,484.7 million baht, an increase by 3.0 percent from the previous year.

Assets in Currency Reserve Account as of 31 December 2016

Description	Value (Million Baht)	Share (%)
1. Foreign Currencies	315,676.6	18.5
2. Foreign Securities	1,393,808.1	81.5
Total	1,709,484.7	100.0

Banknote Production: Total production was at 1,769 million notes, a decrease of 7.7 percent from 2015.

The production volume was categorized by denomination as shown in the following table:

Banknote Production in 2016

Denomination (Baht)	1000	500	100	50	20	Total
Volume (Million notes) ^{1/}	259	189	539	101	681	1,769

Remarks: ^{1/} Exclude 20 million notes for the Commemorative Banknote in the 70th Anniversary Celebrations of His Majesty King Bhumibol Adulyadej's Accession to the Throne 9th June 2016

Commemorative Banknotes In 2016, the BOT produced and issued 2 denominations of commemorative banknotes on: the 70th Anniversary Celebrations of His Majesty King Bhumibol Adulyadej's Accession to the Throne on 9th June 2016 and the Celebrations on the Auspicious Occasion of Her Majesty the Queen's 7th Cycle Birthday Anniversary on 12th August 2016.

Counterfeit banknotes

There were 3,812 counterfeit banknotes (0.8 Part per Million or 0.8 ppm) detected and seized in 2016.

Besides banknotes, the BOT also produced other security products. There were 145.3 million pieces of revenue stamps produced and delivered to the Revenue Department, the Ministry of Finance, a 2.3 percent increase from 2015.

5.2 Research and development (R&D)

R&D projects mainly focused on counterfeit deterrent features, security inks, substitute raw materials, and machine development. The R&D projects also support banknote production with modern technologies. All activities have been continued under energy-saving concerns and environment conservation requirements. In 2016, 16 projects were successfully completed.

5.3 Banknote Issuing and Management

Banknote management system and efficiency improvement In 2016, the BOT

continued to raise high quality standards of cash management, machinery of BOT's Banknote Operation Centers, and commercial banks' cash centers. The quality improvement for circulating banknotes were implemented by withdrawing more unfit banknotes, especially low denomination, from the circulation in Northeastern area. As a result, the Banknote Quality Index (BQI) improved and met our standard and goal. Moreover, the BMG also promoted cost saving in overall banknote operation.

Proactive Banknote Communication

Online media and communication were focused as a channel to educate general public while increasing banknote literacy and cooperation with stakeholders through specific campaigns continuously. Training courses were arranged to educate cashiers and trainers from commercial banks across the country.

Improvement of banknote production and management

(1) Barcode System was developed as a solution for tracking and tracing of banknotes by integrating with the Banknote Management System (BMS) and Management Information System (MIS). In 2015, all related hardware were acquired and the system was tested at Banknote Operation office (Bangkok).

(2) Process Control and Quality Improvement System was successfully applied in the banknote production processes. Banknote sampling plans were deployed for quality assessment at all stages of production to analyze, improve and develop, resulting in a lower defective rate.

(3) A master plan was set up for managing machinery, equipment and production lines, along with revising the appropriate workforce capacity for future operations. In addition, the production dashboard was used to measure machine performance and enhance production efficiency.

6. Safeguarding the public interest

BOT realizes the importance of safeguarding public interest both in consumer protection from market conduct and related technology, and financial literacy. This is to raise consumers' awareness on maintaining financial discipline and prudence on financial technologies. In 2016, BOT has operated as follows:

6.1 Consumer Protection in Financial Services

The BOT has issued circulation to ensure that commercial banks and non-financial institution business strictly comply with policy guidance on financial consumer protection such as customer's data security. Commercial banks are requested to cooperate in keeping sufficient number of ordinary ATM and debit cards on hand to meet customer needs. The BOT also requested commercial banks to take care of customer during the transition period of upgrading magnetic stripe debit card and ATM card to chip card by clearly disclosing accurate information on products and entitling customer to receive important information for decision making such as benefits and fee of upgrading card, fact about applicability of magnetic stripe card until 2019 and the right to freely choose financial products and services, either ordinary card or add-on card, including clear details of charges.

Meanwhile, the BOT has tried to promote confidence in Mobile payment to encourage consumer to make payment through this channel by issuing the important criteria such as risk management, effective customer due diligence, consumer protection and financial literacy, which is expected to be in force in the first quarter of 2017.

Moreover, to prepare for challenges and rapidly changing situation, the Bank of Thailand Board approved for the establishment of two new departments, namely, Financial Consumer Protection Department and Financial Technology Department, responsible for consumer protection as well as analysis and monitoring the development of advanced products and new financial technologies, enabling the BOT to be more proactive at work.

6.2 Financial Literacy

The BOT has adjusted the approach to protective financial literacy instead of being defensive and focusing on new generation people. In 2016, post-training manual has been developed to provide essential financial knowledge to students expecting to graduate and course on Train-the-Trainer was delivered to those having the potential of area-wide transferring knowledge. The BOT also created a project called "Financial Literacy Lab Experiment" by starting with representative samples, which were secondary school students, university students and new young workers, and planning to expand to educational institutions all over the country. The results of in depth study and data analysis will be used in developing appropriate execution model for enhancing financial skills of new generation people.

In the meantime, the BOT remains focusing on continually providing financial knowledge to the general public on financial management, financial harm and new financial innovation such as upgrading ATM card and debit card to chip card, a new fund transfer service called “PromptPay”. The knowledge is delivered through various channels such as giving lecture, hosting activity booth, distributing through traditional media such as newspaper, radio and posting on digital media such as website and Facebook.

In addition to cooperating with existing alliances such as Government Saving Bank, Bank for Agriculture and Agricultural Cooperatives, and Thai Bankers Association, the BOT has expanded network by signing MOU on financial literacy with Office of the Non-Formal and Informal Education (NFE). Course on “Finance for Life” was developed for NFE students in elementary and secondary schools in order to cultivate the pursuit of knowledge and right attitude that will lead to the changing in sustainable financial behavior.

7. The Bank of Thailand’s Participation in International Organizations and International Fora

Amidst volatilities and risks to global economy in 2016, the BOT Governor and executives actively participated in various international cooperation fora to assess economic and financial development and discussed ways to address the possible spillovers. They also laid out the long-term strategic plan to strengthen economic and financial stabilities and to lift up the regional potentials. Key developments in bilateral, regional and global cooperation include the following:

7.1 Association of Southeast Asian Nations: ASEAN

The BOT Governor and other delegates participated in various ASEAN meetings, including the ASEAN Finance Ministers’ and Central Bank Governors’ Meeting in April 2016 in the Lao P.D.R., where the Strategic Action Plans for ASEAN Financial Integration 2025 were endorsed. They are a guideline for financial integration for ASEAN over the next decade and comprise three main pillars, namely (1) financial integration, (2) financial inclusion and (3) financial stability. In this connection, two working committees were established to promote banking integration (Working Committee on ASEAN Banking Integration Framework) and to support financial access in the region (Working Committee on Financial Inclusion).

In addition, substantial progress in other working committees include **(1) Capital Account Liberalization:** Member countries finalized the capital account liberalization’s work plan for 2016-2018 and are in the process of revising the Capital Account Liberalization Heat Map to better reflect the current status of member countries in liberalizing capital flows. **(2) Financial Services Liberalization:** ASEAN Ministers of Finance signed the Protocol to Implement the Seventh Package of Financial Services Liberalization under the ASEAN Framework Agreement on Services (AFAS) in June 2016. **(3) Payment and Settlement Systems:** Work focused on 3 main areas of cooperation: 1) Retail payment systems 2) Cross-border securities settlement and 3) Standardization of payment systems to ensure international compatibility. Moreover, there has been progress on developing the Asian Payment Network (APN) for cross-border transfers among APN members in addition to existing cash withdrawals functions.

(4) **Capacity Building:** Member countries, in cooperation with the Asian Development Bank (ADB) and the South East Asian Central Banks Research and Training Centre (SEACEN), continued to coordinate on the technical assistance provision.

7.2 Association of Southeast Asian Nations + China, Japan and Korea (ASEAN+3)

Cooperation under the ASEAN+3 over the past year has focused on improving the effectiveness of the Chiang Mai Initiative Multilateralization (CMIM) mechanism by enhancing its readiness in various areas. These include the CMIM Test-runs to confirm crisis-response procedures, the revision of the CMIM Operational Guidelines to provide more procedural clarity and the development of economic indicators to support CMIM's Crisis Prevention Function. This Crisis Prevention Function is a pre-emptive facility that complements the CMIM's Crisis Resolution Mechanism, its facility to address balance of payments and liquidity problems. In addition, the ASEAN+3 members are reviewing the potential increase on the IMF De-linked portion from 30% to 40% in order to ensure the adequacy of CMIM's resources amidst the increased volatility in the global economy and financial markets.

7.3 Bank for International Settlements: BIS

In 2016, the BOT Governor attended the BIS Annual General Meeting and Bi-monthly Meetings to exchange views and experiences with other central bank governors on the monetary policy conduct as well as other economic and financial policy issues. In addition, the BOT Governor has been appointed a member of the Central Bank Governance Group (CBGG)⁸, which serves as a venue for discussion on central bank governance, missions and responsibilities, as well as mandates and organizational managements, in order to foster efficient policy implementations.

7.4 Executives' Meeting of East Asia-Pacific Central Banks: EMEAP

EMEAP discussed key challenges facing the regional central banks in their endeavors to preserve domestic stability against the backdrop of monetary policy divergence in major economies. The potential unfavorable impact of regulatory reforms for the OTC derivatives market also prompted EMEAP to exchange views and express their concerns to the EU and US regulators. A greater focus has also been put on the development of new financial technologies (FinTech) that may shape the future of regional financial landscape.

The Bank of Thailand has continued its role as a Co-Vice Chair of the Monetary and Financial Stability Committee (MFSC), which oversees the EMEAP's monitoring of risks to regional economic and financial stabilities. Regular dialogues with private sectors have helped inform policymakers on emerging issues such as the impact of regulatory reforms and cybersecurity.

7.5 International Monetary Fund: IMF

The Meetings of the IMF Board of Governors in April and October 2016 in Washington, D.C. stressed the need for inclusive growth and adequacy of the Global Financial Safety Nets. The IMF recommended global policymakers to be proactive in dealing with the new mediocre that global growth has been too low for too long, as well as challenges from rapid technological advances in the digital age. The IMF urged member countries to expedite structural reforms and implement appropriate mix of monetary and fiscal policies to boost demand and productivity.

⁸ Central Bank Governance Group (CBGG) serves as a venue for the exchange of views among governors on matters relating to organizational design and governance of central banks. The Group currently comprises nine Governors: Stefan Ingves (Sveriges Riksbank) is Chairman, Agustín Carstens (Bank of Mexico), Bostjan Jazbec (Bank of Slovenia), Lesetja Kganyago (South African Reserve Bank), Philip Lowe (Reserve Bank of Australia), Yves Mersch (ECB), Veerathai Santiprabhob (Bank of Thailand), Janet Yellen (Board of Governors of the Federal Reserve System), and Zhou Xiaochuan (People's Bank of China)

7.6 South-East Asian Central Banks Research and Training Centre: SEACEN

The SEACEN Board of Governors has approved ways to further promote SEACEN as a highly capable organization and thought leader in the region, through continually enhancing the quality of its training, research and seminar programs. Moreover, Governors exchanged views and experiences on the theme “Monetary Policy Frameworks and Financial Stability”, which emphasized the challenges and constraints of central banks in strengthening financial stability in addition to enhancing economic fundamental amid public expectations, to weather the impacts of changing global economy.

In addition, the Bank of Thailand co-hosted a high-level international conference with the Bank Negara Malaysia and SEACEN to honor Dr. Puey Ungphakorn, a former Governor of the Bank of Thailand and co-founder of the SEACEN Centre, on the occasion of the centenary of his birth and being recognized as the World’s Eminent Persons by the United Nations Education, Scientific and Cultural Organization (UNESCO) for his high ethical standards.

7.7 Other International Agreements--Asian Infrastructure Investment Bank: AIIB

The BOT, in collaboration with relevant public authorities, determined Thailand’s portion of paid-in capital in the **Asian Infrastructure Investment Bank: AIIB**, as well as supported a Thai representative to be nominated as a Board of Director for Thailand’s constituency in the AIIB. The founding members in this constituency comprises Thailand, Philippines, Bangladesh, Nepal and Maldives. The BOT acts as a custodian as well as depository of Thailand’s portion of the assets of the AIIB.

7.8 Free Trade Agreements: FTAs

In 2016, the BOT was involved in negotiation of several free trade agreements (FTAs) in financial services including the Regional Comprehensive Economic Partnership (RCEP) and the ASEAN-Hong Kong Free Trade Agreement (AHKFTA).

7.9 Establishment of a Framework for Cooperation to Promote the Settlement of Bilateral Trade and Direct Investment in local currencies

Bank Indonesia and BOT signed a Memorandum of Understanding (MoU) on the Establishment of a Framework for Cooperation to Promote the Settlement of Bilateral Trade and Direct Investment in their local currencies on 23 December 2016 in Bangkok. The MoU signified both central banks’ efforts to promote the use of the Indonesian Rupiah and the Thai Baht by the private sector to settle cross-border trade and direct investment. This arrangement aims to reduce risks of exposure to the volatility of major currencies, lower transaction costs for businesses, and enhance the bilateral trade and investment flows between Indonesia and Thailand.

7.10 Technical Cooperation with the neighboring countries

is delivered through various capacity building programs such as providing BOT resource persons, training courses, study visits, secondment programs, and scholarships. These are also conducted in collaboration with other development partners such as the IMF’s Technical Assistance Office for the Lao PDR and the Republic of the Union of Myanmar (TAOLAM) particularly in the areas of monetary policy, foreign exchange policy, banking supervision and payment system, financial market development, and other central banking operations.

8. Economic Operating of regional offices of the Bank of Thailand

The Bank of Thailand has three regional offices which are the Northern Region Office (NRO), Northeastern Region Office (NEO) and Southern Region Office (SRO). Key responsibilities are to support 1) economic conditions monitoring; 2) access to financial sector vulnerability; 3) monitor foreign exchange authorized agents; 4) promote regional financial literacy and awareness; 5) financial service complaints management; 6) regional bond registrars and ICAS (Imaged Cheque Clearing and Archive System) coordination.



8.1 Northern Region Office (NRO)

- **Studying and monitoring economic condition of the northern region** including the conduct of the Business Liaison Program (BLP) with private sectors in the region.
- **Conducting key economic researches** relevant to regional development which gear to improve better understanding of the northern economy. For example, in-depth reports of paddy and rice market, tourism industry.
- **Focus on border trades and trade related issues with Myanmar and Southern China**, including the economic cooperation in the Greater Mekong Sub-region Economic Cooperation (GMS) and the ASEAN Economic Community (AEC).

In 2016, the office had set up the **GMS Self-learning Center** which aimed to establish an academic and technical cooperation among key GMS stakeholders from private and public sectors.

- **Conducting the annual economic seminar** which aimed to disseminate information on regional economic development.
- **Analyzing the issue of access to financial services and financial skills** in the remote area, for exchange of views at Mini Symposium.
- **Publishing the periodic economic conditions reports, the quarterly BLP reports and special analysis** in the BOT website and electronic media as well as quarterly press conferences.



8.2 Northeastern Region Office (NEO)

- The NEO is responsible for studying, monitoring and analyzing the economic conditions of the Northeastern Region (NE) including neighboring countries as well as cross-border trade and important economic issues relating to the region. In addition to developing economic indicators and econometric models for forecasting NE economy, the NEO also emphasizes on qualitative information, which is derived from a Business Liaison Program (BLP) and in-depth field surveys, for better understanding of current economic conditions and outlook of the region.
- The NEO is in charge of in-depth analysis of cane and sugar industry, which is one of the major commodities of the region. Moreover, the NEO also conducted a study of neighboring economy on the topic of “Unlocking the mystery of Vietnam’s export growth during the global recession”, published in Bank of Thailand’s Focused and Quick (FAQ) series.
- To promote financial literacy and broaden public understanding about the roles of the BOT as well as the outlook of NE economy including neighboring countries, the NEO hosted various seminars to relevant government agencies, students and individuals. The NEO also provided comprehensive assessment of NE current economic conditions to leaders of local government agencies, staffs of provincial Chamber of Commerce and Industry.
- Hosted a seminar on “National e-Payment Master Plan” for relevant organizations.

- Collaborating with both domestic and foreign organizations, covering the following events:
 - (1) The NEO organized meeting with the Region Office of the National Economic and Social Development Board and relevant organizations for regular evaluation of NE economic conditions.
 - (2) The NEO cooperated with neighboring central banks by arranging training programs, workshops and lectures to managements and staff from Bank of Lao PDR (BOL), while continued our collaboration with international networks within the Greater Mekong Subregion (GMS).
 - (3) The NEO held a meeting between Thai-Lao Commercial Bank 2016 in Vientiane, Lao PDR, to follow up on the progress of cross-border financial development.



8.3 Southern Region Office (SRO)

The details of the SRO performances in 2016 are as follows:

- **Studying, Analyzing and Monitoring Southern Economic Conditions:** Main responsibilities of SRO comprise studying, monitoring, and analyzing situation of economic sectors, as well as border trade and Special Economic Zone in Southern region. Consequently, the SRO is in charge of publishing the monthly and quarterly economic and monetary conditions report, and major commodities report which is including rubber, oil palm, and shrimp. Also, the SRO constructs key economic indicators on housing price, publishes quarterly real estate report and regional loan situation, as well as reports quarterly and yearly economic condition of Songkhla and Three Southern Border Provinces. Furthermore, the SRO conducts quarterly business trend report gained by incorporating insights and intelligence information from Business Liaison Program (BLP) among key counterparts such as entrepreneurs and financial intuitions in order to assess economic condition and industrial outlook.
- **The In-depth Study:** The SRO conducted two in-depth studies: 1) The status and financial risk of households in Southern region, and 2) business model of rubber industry covering competitiveness of the business and rubber price factors. Moreover, the SRO persistently contributes the study of major economic sectors by publishing 11 economic articles on topics of rubber, oil palm, tourism, labor, public spending, and rural economy.

- The SRO organized the annual academic seminar under the topic “Thailand 4.0”. Also, conducting the quarterly press conference and training courses to media twice.

In addition, the economic monitoring and analytical output of the regional offices are provided to the general public on regular basis via press conference, report and articles on BOT website, electronic media, local news, Chamber of Commerce journals, and local industrial journals.

9. Internal Excellence

To fully achieve the organization’s missions and visions amid the changing and volatile, uncertain, complex, and ambiguous environment, the BOT focuses on developing knowledge platform, strengthening research quality, and setting up academic network to exchange views on policy issues. This is in line with information technology and data management to respond speedily to diverse needs of business and react timely to the world’s situation. Moreover, the structural problem of employees also has been mitigated, due to ageing population.

9.1 Knowledge building and academic networking



The Bank of Thailand (BOT) places the importance on knowledge building to support the BOT’s policy formulation and its advisory role to the government and networking with academics to create a mutual understanding between the BOT and alliances. To archive this goal, Puey Ungphakorn Institute for Economic Research (PIER) has completed the following activities:**Knowledge building:** In 2016, PIER has released 38 discussion papers and 26 aBRIDGED articles covering various areas: monetary policy, financial system, and the real economy.

Research funding and grants:

- Providing financial support, in collaboration with the Thailand Research Fund (TRF), to the ongoing Townsend Thai Data Project for the development of household-level database (monthly micro data) and the conduction of related researches;
- Providing continuous support to Thailand Development Research Institute (TDRI) in conducting research related to the “New Growth Model” of Thailand;
- Awarding 2016 Puey Ungphakorn Institute for Economic Research grants to three projects regarding foreign exchange market, ASEAN economies, and economic cost of political uncertainty.

Creating country’s academic platform: The BOT and PIER held an annual symposium under the theme of “The Data Revolution: A New Paradigm for Economic Policy” which took place on 15 - 16 September 2016. The conference focused on researches and economic policy formulation that utilize large high-frequency dataset or newly created data in digitalized economy and presented five papers by researchers from within and outside the BOT. In addition, PIER periodically organizes Economic Seminars, a platform for researchers to disseminate academic works, as well as Press Briefing with the aim of connecting academia with the public.

Building domestic and international academic networks:

- (1) PIER organized annual Research Workshop which brought together the BOT and non-BOT economists to share knowledge and exchange new research techniques. In 2016, the workshop took place on 8 - 9 July 2016 in Nakhon Ratchasima, with five papers presented together with a brainstorming session under the topic “Establishing Research Culture in an Organization.”



- (2) PIER organized four field-specific workshops regarding fiscal economics, Thai household data project, new economic development model, and behavioral economics.
- (3) In collaboration with the Central Bank Research Association (CEBRA) and the Asian Bureau of Finance and Economic Research (ABFER), PIER has organized a seminar under the topic “Monetary Policy and Financial Stability in the Asia-Pacific” which took place in Singapore.
- (4) Encouraging outside researchers to attend the visiting fellow program for better collaboration among BOT and non-BOT researchers.

9.2 Information Technology Management and Data Management

The BOT continuously enhances its IT infrastructure to embrace evolving innovation and integrates emerging technologies to improve data usage and management.

Information Technology

Upon the 5-year IT Strategic Roadmap, the BOT focuses on technology transformation where leading and emerging technologies are adapted to support various business areas including foreign reserves management, payment, data analytics and IT risk, and used to leverage the quality and efficiency of the organization.

Key achievements in 2016 can be summarized as follows.

- (1) **IT Infrastructure:** The BOT enhanced IT infrastructure in every layer. In the network layer, there were upgrades on the connections to the Government Information Network (GIN), the member network, as well as the data center network connecting the primary and backup sites. For enterprise storage layer, the focus was on data platform capability expansion for supporting growth of data usage and preparing for data analytics related tasks. The BOT also adopted automation features on computing platform and upgraded central time server according to the international standard. Furthermore, the infrastructure design for the new disaster recovery data center was completed and would be implemented by next year.
- (2) **Applications:** Various application were extended to support new functions and to improve system availability and operational efficiency.
 - **Financial Markets Operations:** Examples of application enhancement are the upgrades on BOT trading platform, Dealing Room System (DRS) and Emergency Liquidity Assistance System (ELA). New application capabilities were developed, such as a new application on seller certification and registration management for money market and foreign money market, new functions to support Early Termination or Extended Maturity transaction and At Call transaction in Securities Borrowing and Lending System (SBL) and an annual benefit transfer function for Financial Institutions Development Fund (FIDF) in Capital Regulation and Supervision System (CRS) and Treasury Account System (TAS).

- **Payment:** The stability and availability of BAHTNET and Central Settlement System (CSS) were upgraded for better crisis handling. An imaged cheque verification in Imaged Cheque Clearing and Archive System (ICAS) was improved to be completely automated and complied to international standard. Bond Switching and Consolidation System supporting the Public Debt Management Office's policy (PDMO) was developed. Moreover, a post auction option feature in E-Bidding system was added to increase flexibility in liquidity absorbing. For e-Payment system, there are two new applications developed in 2016 for end users. First, e-Payment Fee application offers comparison among fees from various financial institutes and helps users in decision making. Another application is an automated workflow system for e-Payment service providers to send request/report to the BOT as per Licensing Facilitation Act, B.E. 2015.
- (3) **IT Security:** According to an emerging and evolving IT and cyber threats, the BOT empowered the protection and detection capabilities of Security Operation Center (SOC) altogether with advanced detection and monitoring for more complex threats. Meanwhile, IT Security team developed a privilege access management system to strengthen the security level for accessing critical system, aligning with industry best practices.

Data Management

The BOT has prepared staff, process of work, data management technology, and updated data governance practices for the changes in data and information technology environment. Key actions implemented throughout the year are listed below.

(1) Leveraging usage of data

The BOT increased its usage of micro data for policy and deeper analysis together with the use of new data analytics techniques, namely, data science. In addition, new statistical data and indicators were developed. These, in turn, helped support the needs of statistical data for analysis aligned with the data strategic plans of the country as well as elevated the quality and standard of the statistical data.

- **Data Analytics Works:** The BOT has initiated a number of data analytics projects using micro data intensively. These projects included: (1) the assessment of financial stability by using commercial banks' individual lending data to signal the ill status of debt, namely, "Special Mention" of corporates, and then can use, later, to construct a special mention early warning indicator; (2) the analysis of foreign exchange (FX) trading behavior linked to FX risk management by using of FX selling and buying data by transaction and "network analysis" technique, resulting in a timely indicators and monitoring technique for proper managing exchange rate market liquidity, better monetary policy implementation and maintaining financial stability.
- **Economic Indicators Development:** Key indicators were developed in this phase including :
 - Service Sector Indicators: increasing the number of service sector indicators and constructing a Composite Service Production Index (SPI), incorporating 28 components (or indicators).

- Manufacturing Production Index (MPI): adjusting the companies in the surveyed sample basket of MPI by adding the new and removing some companies in the basket. This helped improved the company samples to be more relevant to the current industry structure and taken care of non-response sample. As a result, the index has a better quality performance.
- Household Indicators: constructing Debt Service Ratio (DSR) to measure household debt affordability and vulnerability. The constructed DSR are classified by financial institution lenders and by debt instruments. This DSR is presently used internally, and will be available publicly afterwards.
- Local Government Indicators: Worked with the Fiscal Policy Office (FPO) in developing local government statistics and indicators.

(2) Expansion of data and data sources

The BOT studied the feasibility of use and acquisition of new hi-frequency data like internet or social media for now-casting economic activities and the development of the service channel linking the BOT registry system to the certain Registry Authorities' system, namely, the Department of Provincial Administration and the Department of Business Development. The link will enable the BOT to obtain registry information directly from those authorities, and will help BOT to receive accurate registration data from official sources and reduce burden borne by financial institutions in preparing and submitting such data to BOT.

(3) Developing and improving data and information systems

- **Banking supervision systems:** Designed data reporting system, a new liquidity reporting, that required finance companies and credit foncier to submit the data conforming to Basel III, to monitor capital adequacy and short-term severe liquidity stress (Liquidity Coverage Ratio: LCR) of finance companies and credit foncier.
- **Specialized Financial Institution (SFIs) supervision system:** Developed the data system of the SMEs loan and contingent liabilities of SFIs. These data will be obtained monthly since mid-2017 onwards. In addition, the current data system of balance sheet reporting was improved to support the consolidated supervision, requiring the Secondary Mortgage Corporation, the only SFIs' Affiliates, to report their consolidated balance sheet to regulators.
- **Individual Data Integration (IDI) System:** A data system that links profile and transactions of each individual data in the BOT's database were established. This data infrastructure can support data usage and make data more valuable as the flows of economic activity can be tracked and links can be notified. Since the data are in micro and transaction base, data anonymization and data masking are implemented, ensuring the data privacy and security protection
- **Balance of Payments and International Investment Position Statistics:** Framework in collecting the ultimate beneficial owners of debt securities issued in Thailand was prepared and the data are planned to submit by Q1-2017.
- **Near Real-time Registry information system:** Developed a system linking the BOT Registry systems to the Department of Provincial Administration and Department of Business Development.

- **Adopting new data acquisition solutions:** Developed a new data acquisition platform to replace the existing platform. This new platform exploits more advanced security technology, more flexible functions that support usages and personal access right management. In addition, new Data Dissemination Portal (DDP) for disseminating information to members was developed using the same security standard.

(4) Collaboration and information dissemination

Data collaborations has been enhanced to increase uses of data for analyses and reduce data work duplication. In so doing, the BOT signed the Memorandum of Understanding (MOU) with the Ministry of Tourism and Sports to engage in open exchange of tourism and related statistical data and sharing analysis papers on tourism issues. The BOT has also engaged in academic collaboration with external agencies, including the Comptroller General's Department (CGD), Office of Industrial Economics (OIE), Student Loan Fund, and Cooperative Auditing Department, to sharing knowledge and skills in developing statistics and new economic indicators. . The BOT also collaborated with the IMF to organize regional workshops on fiscal statistics and Financial Soundness Indicators (FSIs). The BOT joined in several working groups and committee in various statistics, such as the Working Group on Statistics of International Trade in Services (WGSITS), the member of the committee and sub-committee for official statistics of National Statistic Office, and provided a technical assistance on survey technique to General Statistics Office of Vietnam. Moreover, the BOT disseminated another seventeen Financial Soundness Indicators, extending the number since previously disseminated in 2015, to the IMF and public (31 December 2016). New statistical publications and improved statistical data and index were also disseminated, including papers on international trade credit, Residential Property Price Index (RPPI) and Outward Direct Investment Statistics classified by beneficiary business type.



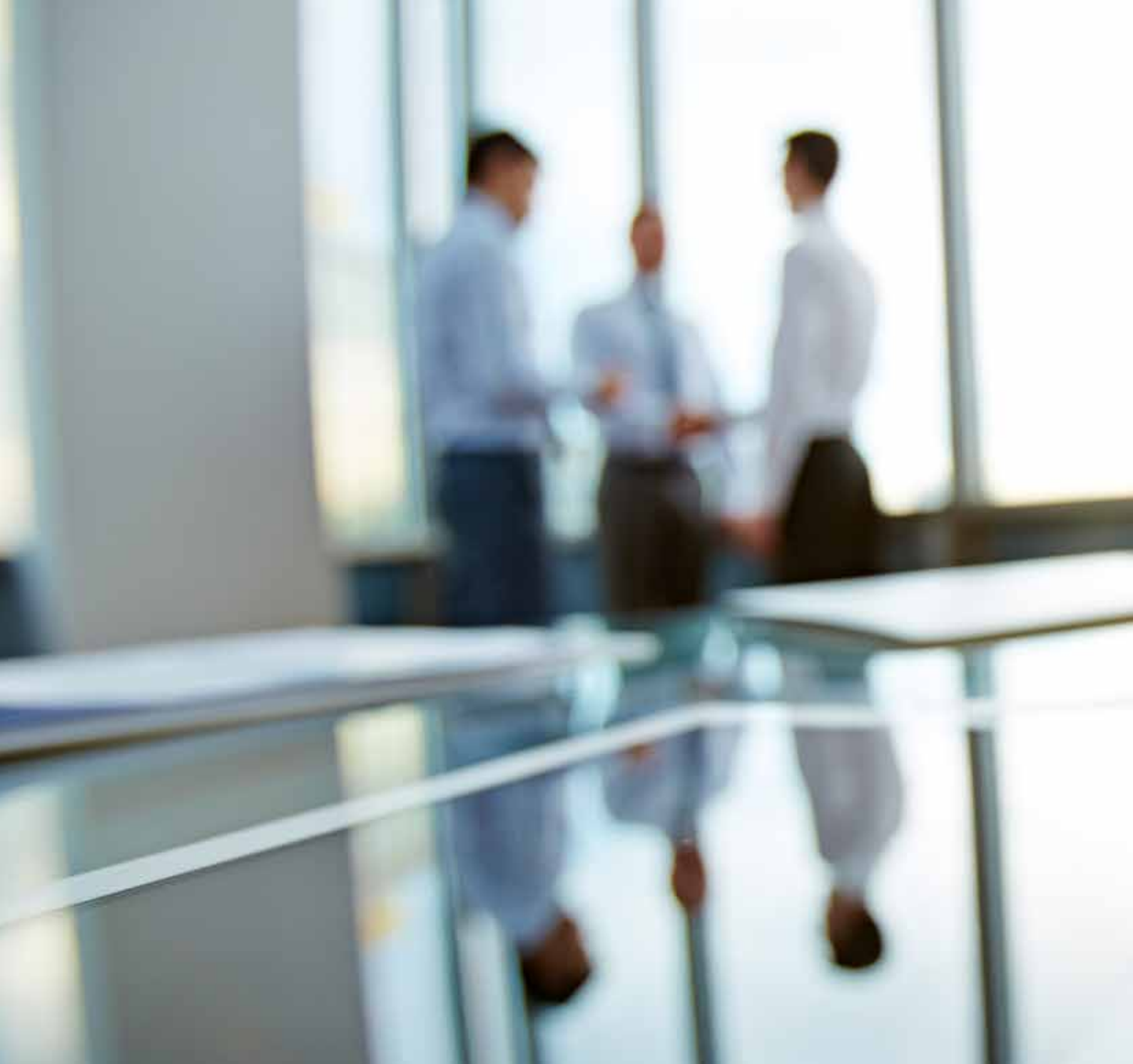
Signing of Memorandum of Understanding concerning cooperation on Tourist Information between Ministry of Tourism and Sports and the BOT on 14th November 2016.

9.3 Human Resources Management

The BOT has a strong commitment to develop the staffs to be well-equipped with skills and experience for driving the organization, especially in today's turbulent business environment. The BOT enhanced the working process of each function and human resources management as follows:

- (1) On external recruitment for potential and experienced staff hiring from new graduated, Ph.D. to professional levels in focus area such as Data analytic specialist and Researcher at Puey Ungphakorn Institute for Economic Research (PIER).
- (2) The prospective qualified target group for recruitment, the pro-active joint the BOT-varsity recruitment through campus visit; and the extended use of various forms of communications through social recruiting tools. Furthermore, values of professional certificates will be added to selected applicant's basic income and selected PhD. applicants who graduated from leading international universities in Economics, Finance, Information Technology and Engineering, their income is adjusted to meet their ability and qualification. Not only remuneration considering, The BOT Mentoring program is developed to provide guidance for new staffs and scholarship students, on their work life and to get along with the BOT culture.
- (3) Regarding a long-term strategic staffing plan, the BOT has consistently carried out succession planning in critical leadership positions in order to effectively prepare well-rounded talents to fulfill the organizational missions and tackle external challenges in the future. This succession planning scheme provides holistic development by equipping both professional and functional competency for the talents or the future leader.
 - 3.1) Employees will be encouraged to use E-Learning as self-Development. Also, they will be trained through various courses both professional skills; for example, leadership development and functional skills related to job needs.
 - 3.2) Mobility is encouraged in both moving and rotating position within the BOT and through Secondment program in order to empower employees to develop their skills and increase diverse experience.
 - 3.3) Scholarships are provided to study in local and overseas institutions. More fields of study deemed necessary for the BOT's future functionality, for example Data Analytics and Cyber Security, are added to the scholarships. Furthermore, the BOT in collaboration with the London School of Economics and Political Science (LSE) has also established the Dr. Puey Ungphakorn Centenary Scholarship to commemorate the 100th anniversary of the birth of Dr. Puey Ungphakorn. The Scholarship grants awardee to study for a master's or Ph.D. degree in Economics, Finance, and Data Science at the LSE.
- (4) Incentive Rewards has been given to the dedicates and innovative employees that excel in full time, project works and research. Together with the employee leave for the research purposes.
- (5) The Building of work culture, in order to align with corporate core values which are Integrity, Vision, Outreach and Humility. The BOT has addressing and focusing on the 5 key behaviours: Integrity, Insightfulness and visionary, Openness, Agility and Outcome-Oriented. This aims to highly achieve the BOT's mission and vision effectively

⁹ As of 31 December 2016, BOT has 3,267 employees.



Audit Committee's Report



Audit Committee's Report

The incumbent Bank of Thailand Audit Committee (the AC) comprises five non-executive members, appointed by the Bank of Thailand Board ("the Board"), three of which are from the Board and the other two are external experts. The AC members and their terms of office are as follows;

1. Mr. Achporn Charuchinda (since February 1, 2014), a Board member, who serves as the Chairman;
2. Mr. Chalee Chantanayingyong (since October 1, 2015), a Board member;
3. Dr. Suthad Setboonsarng (since November 26, 2015), a Board member;
4. Mrs. Chittima Duriyaprapan (since October 1, 2014), a non-Board member;
5. Mrs. Danuja Kunpanitchakit (since February 27, 2014), a non-Board member.

The AC is empowered to function as an efficient mechanism in assisting the Board to oversee the BOT operations, in order to ensure that BOT carries out its functions in accordance with good governance and accountability principles, appropriate risk management system, effective internal control, as well as independent and objective internal audit. Thus, the Board could be reasonably assured that operational processes of the BOT are transparent and efficient, thereby supportive of the management's thrust and effort to achieve the BOT's goals, objectives, and visions. The duty of the AC is subject to authorities, roles, and responsibilities, stipulated by the Audit Committee Charter as well as additional assignments from the Board.

In 2016, the AC held a total of 12 meetings, inclusive of a meeting at the Office of Banknote Management Group in Nakhon Pathom Province.

Apart from such meetings, the AC had met twice with the BOT Governors, twice with external auditors from the Office of the Auditor General of Thailand (OAG), and once with all staff members of the BOT's Internal Audit Group (IAG).

The task carried out and reviewed by the AC in 2016 can be summarized as follows:

1. Review of Financial Statements

The AC reviewed the process for preparing financial statements and financial reports of operations undertaken by the BOT, namely, financial statement of the BOT, of Currency Reserve, and of Banknote Issuance Business. The AC viewed that the overall preparation process of account booking and financial statements of all three entities was under prudent and effective internal control. In all material aspects, financial statements fairly presented financial condition and operational performances, maintained reliability and observed generally accepted accounting principles, appropriate accounting practices for central banks, as well as relevant regulations. Information disclosure was also adequate and appropriate.

2. Coordination on the Risk Management

In order to strengthen coordination between risk management functions and internal audit activities, the Risk Oversight Committee (ROC) and the AC has continually exchanged their meeting minutes. In 2016, via the ROC minutes, the AC acknowledged concerns expressed by ROC in regard to Enterprise risk management (ERM) as well as major risks of Thai economy and financial systems. On certain occasions, the AC also had IAG analyze and bring to the ROC's attention the relevant risk identified from audit findings.

3. Internal Control and Auditing

The AC reviewed audit reports submitted in line with the 2016 annual audit plan of the IAG as well as additional audit assignments. In addition, the AC highlighted the important role of management in ensuring that operations are in compliance with relevant laws, rules, and regulations, and in implementing the recommendations made in internal audit report.

Regarding the internal audit work, the AC viewed that internal audit has demonstrated continuous improvement and carried its task effectively. Hence, it was able to provide value-added services critical to efficient and effective organizational management for the BOT. Regarding internal control and process improvement in some areas, the AC recommended the BOT to strengthen compliance practices, as well as, to encourage all departments to voluntarily report risk-incident, and to expedite the completeness of a comprehensive Cyber-attack emergency plan. The AC also suggested the BOT to record lessons learned especially complied from valuable experience in managing previous big and complex construction projects and using the complied document as a body of knowledge. The AC encouraged the strengthening of coordination between departments when issuing any policy impacting the public at large.

4. Supervision and Support of Internal Audit Work

The AC reviewed and approved the annual audit plan, and annual budget for 2017 including the IAG's Human Resource Development Plan which highlights the programs aiming at developing auditor capabilities specifically in performance audit and IT audit skill.

The AC annual meeting with IAG staff members was held in December 16, 2016. The meeting

provided an opportunity for information sharing and helped strengthening mutual relationship, and reinforcing understanding on the roles of the AC and the IAG. In this meeting, the AC gave valuable guidance on internal auditing towards efficient and effective audit process with upheld independence, and inspired IAG to maintain positive attitude, to value internal audit work towards BOT, and to encourage continuous staff development through work-secondment program with external organizations as well as knowledge and experience sharing.

5. Meetings with the BOT Governor

In 2016, the AC met with the BOT Governors twice. The topic of discussion covered 1) major audit findings in 2016, 2) the review of audit plan for the rest of 2016, and 3) scopes and annual audit plan for 2017.

6. Meetings with the External Auditor (OAG)

The AC met with the external auditor twice, to acknowledge the external auditor's comments and suggestions on accounting practices and preparation of BOT financial statements, and on the information disclosure as per financial report standards, as well as to make an inquiry of problems or limitations, if any, faced by the external auditor in performing its duties, so as to facilitate and ensure independence of the external auditor.

In addition, the AC reviewed the annual audit fee proposed by the OAG before submitting it for approval from the Board.

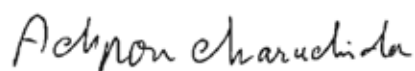
7. Reporting of the Work of the AC

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

Summary of the AC's Opinion

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

Overall, the AC concluded that the Board, BOT Management, and BOT officers were committed to performing their duties in a professional manner, in order to achieve BOT's objectives, and accorded importance to good governance to foster efficiency, transparency, prudent risk management, and an effective internal control system. The BOT's operations complied with the relevant laws, rules, and regulations, while the audit results were useful, in accordance with best principles. Each part of the organization has contributed towards the efficiency of the BOT, and enhanced her credibility with all relevant stakeholders.



(Mr. Achporn Charuchinda)
Chairman, Audit Committee
Bank of Thailand
January 2017

Auditor's Report and Financial Statements





AUDITOR'S REPORT

To the Minister of Finance

Opinion

The Office of the Auditor General of Thailand has audited the financial statements of the Bank of Thailand, which comprise the statement of financial position as at December 31, 2016, the statement of income and statement of comprehensive income, statement of changes in equity and statement of cash flows for the year then ended, and notes to the financial statements, including a summary of significant accounting policies.

In the Office of the Auditor General of Thailand's opinion, the above mentioned financial statements present fairly, in all material respects, the financial position of the Bank of Thailand as at December 31, 2016, and its financial performance and its cash flows for the year then ended in accordance with Thai Financial Reporting Standards and the Bank of Thailand Act.

Basis for Opinion

The Office of the Auditor General of Thailand conducted the audit in accordance with Thai Standards on Auditing. The Office of the Auditor General of Thailand's responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of the report. The Office of the Auditor General of Thailand is independent of the Bank of Thailand in accordance with the State Audit Standards issued by the State Audit Commission and the Federation of Accounting Professions under the Royal Patronage of His Majesty the King's Code of Ethics for Professional Accountants that are relevant to the audit of the financial statements, and the Office of the Auditor General of Thailand has fulfilled other ethical responsibilities in accordance with these requirements. The Office of the Auditor General of Thailand believes that the audit evidence the Office of the Auditor General of Thailand has obtained is sufficient and appropriate to provide a basis for the Office of the Auditor General of Thailand's opinion.

Other Information

Management is responsible for the other information. The other information comprises information in the annual report, but does not include the financial statements and the auditor's report in the annual report. Management expects that the annual report will be provided to the Office of the Auditor General of Thailand after the date of this auditor's report.

The Office of the Auditor General of Thailand's opinion on the financial statements does not cover the other information, and the Office of the Auditor General of Thailand will not express any form of assurance conclusion thereon.

In connection with the audit of the financial statements, the Office of the Auditor General of Thailand's responsibility is to read the other information identified above when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the financial statements or knowledge obtained in the Office of the Auditor General of Thailand's audit, or otherwise appears to be materially misstated.

When the Office of the Auditor General of Thailand reads the annual report, if the Office of the Auditor General of Thailand concludes that there is a material misstatement therein, the Office of the Auditor General of Thailand is required to communicate the matter to those charged with governance.

Responsibilities of Management and Those Charged with Governance for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with Thai Financial Reporting Standards, and the Bank of Thailand Act, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is responsible for assessing the Bank of Thailand's ability to continue as a going concern, disclosing matters related to going concern (as applicable), and using the going concern basis of accounting unless management either intends to liquidate or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Bank of Thailand's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements

The Office of Auditor General of Thailand's objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes the Office of the Auditor General of Thailand's opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Thai Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of the Office of the Auditor General of Thailand's audit in accordance with Thai Standards on Auditing, the Office of the Auditor General of Thailand exercises professional judgment and maintain professional skepticism throughout the audit. The Office of the Auditor General of Thailand also:

- Identifies and assesses the risks of material misstatement of the financial statements, whether due to fraud or error, designs and performs audit procedures responsive to those risks, and obtains audit evidence that is sufficient and appropriate to provide a basis for the Office of the Auditor General of Thailand's opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtains and understands of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.
- Evaluates the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Concludes on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the entity's ability to continue as a going concern. If the Office of the Auditor General of Thailand concludes that a material uncertainty exists, the Office of the Auditor General of Thailand is required to draw attention in the auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify the Office of the Auditor General of Thailand's opinion. The Office of the Auditor General of Thailand's conclusions are based on the audit evidence obtained up to the date of the auditor's report. However, future events or conditions may cause to cease to continue as a going concern.
- Evaluates the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

The Office of the Auditor General of Thailand communicates with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that the Office of the Auditor General of Thailand identifies during the audit.

(Yupin Chalanonniwat)
Deputy Auditor General for Auditor General

(Chitra Mekapongpanh)
Director of Financial Audit Office No. 3

Office of the Auditor General of Thailand

March 22, 2017

Bank of Thailand
Statement of Financial Position
As at December 31, 2016

		Unit : Baht	
	Notes	2016	2015
ASSETS			
Cash and Deposits	4	790,313,141,104	608,691,723,435
Reserve Tranche and Holdings of Special Drawing Rights	5	69,117,344,213	69,604,061,053
Investment in Securities	6	3,063,658,457,868	2,918,048,601,425
Loans	7	112,045,652,243	136,594,860,330
Premises and Equipment	8	6,958,300,863	6,452,977,033
Other Assets	9	176,097,367,892	100,965,307,202
Total Assets		4,218,190,264,183	3,840,357,530,478
LIABILITIES AND EQUITY			
Deposits	10	287,148,314,048	551,263,461,277
Allocations of Special Drawing Rights	11	46,722,111,011	48,506,509,104
Securities Sold under Repurchase Agreements	12	310,306,000,000	350,590,000,000
Debt Securities Issued by the Bank of Thailand	13	4,170,375,564,674	3,426,338,072,694
Other Liabilities	14	149,401,916,351	69,889,209,551
Total Liabilities		4,963,953,906,084	4,446,587,252,626

The accompanying notes form part of these financial statements.

Bank of Thailand
Statement of Financial Position (continued)
As at December 31, 2016

		Unit : Baht	
	Notes	2016	2015
LIABILITIES AND EQUITY (Continued)			
Equity			
Initial Capital		20,000,000	20,000,000
Statutory Appropriation	15	27,307,931,128	27,307,931,128
Reserve for Stabilization of Profit Payable to the Government	16	624,075,747	624,075,747
Assets and Liabilities Revaluation Reserve	17	32,119,865,142	90,205,916,464
Accumulated Losses	18	(725,028,181,880)	(635,250,812,326)
Net Loss for the Year		(80,807,332,038)	(89,136,833,161)
Total Equity		(745,763,641,901)	(606,229,722,148)
Total Liabilities and Equity		4,218,190,264,183	3,840,357,530,478

Note: The accompanying notes form part of these financial statements.

(Veerathai Santiprabhob)
Governor

(Preyanuch Chuengprasert)
Senior Director, Finance and Accounting Department

Bank of Thailand
Statement of Income
For the Year Ended December 31, 2016

		Unit : Baht	
	Notes	2016	2015
Income			
Interest Income		53,216,942,052	47,026,729,520
Net Gains on Sale of Investments		23,806,669,816	4,148,489,034
Commission		492,374,893	931,958,395
Others		647,175,357	756,803,651
Total Income		78,163,162,118	52,863,980,600
Expenses			
Interest Expense		82,273,407,779	91,861,122,339
Net Losses on Foreign Exchange		57,437,851,299	38,137,953,569
Personnel Expenses		4,872,881,877	5,052,007,451
Others	19	14,386,353,201	6,949,730,402
Total Expenses		158,970,494,156	142,000,813,761
Net Loss		(80,807,332,038)	(89,136,833,161)

Note: The accompanying notes form part of these financial statements.

Bank of Thailand
Statement of Comprehensive Income
For the Year Ended December 31, 2016

	Unit : Baht	
	2016	2015
Net Loss	(80,807,332,038)	(89,136,833,161)
Other Comprehensive Income (Loss)		
Items that might be reclassified subsequently to Profit or Loss		
Change in Assets and Liabilities Revaluation Reserve	(58,086,051,322)	184,181,201,159
Items that will not be reclassified subsequently to Profit or Loss		
Actuarial Loss	(640,536,393)	(780,002,310)
Total Other Comprehensive Income (Loss)	(58,726,587,715)	183,401,198,849
Total Comprehensive Income (Loss)	(139,533,919,753)	94,264,365,688

Note: The accompanying notes form part of these financial statements.

Bank of Thailand
Statement of Changes in Equity
For the Year Ended December 31, 2016

	Unit : Baht						
	Initial Capital	Statutory Appropriation	Reserve for Stabilization of Profit Payable to the Government	Assets and Liabilities Revaluation Reserve	Accumulated Losses	Net Profit (Loss) for the Year	Total
Balance as at January 1, 2015	20,000,000	27,307,931,128	624,075,747	(93,975,284,695)	(572,901,331,397)	(61,569,478,619)	(700,494,087,836)
Changes during the Year							
Net Loss transferred to Accumulated Losses	-	-	-	-	(61,569,478,619)	61,569,478,619	-
Total Comprehensive Income (Loss)	-	-	-	184,181,201,159	(780,002,310)	(89,136,833,161)	94,264,365,688
Balance as at December 31, 2015	20,000,000	27,307,931,128	624,075,747	90,205,916,464	(635,250,812,326)	(89,136,833,161)	(606,229,722,148)
Balance as at January 1, 2016	20,000,000	27,307,931,128	624,075,747	90,205,916,464	(635,250,812,326)	(89,136,833,161)	(606,229,722,148)
Changes during the Year							
Net Loss transferred to Accumulated Losses	-	-	-	-	(89,136,833,161)	89,136,833,161	-
Total Comprehensive Income (Loss)	-	-	-	(58,086,051,322)	(640,536,393)	(80,807,332,038)	(139,533,919,753)
Balance as at December 31, 2016	20,000,000	27,307,931,128	624,075,747	32,119,865,142	(725,028,181,880)	(80,807,332,038)	(745,763,641,901)

Note: The accompanying notes form part of these financial statements.

Bank of Thailand
Statement of Cash Flows
For the Year Ended December 31, 2016

	Unit : Baht	
	2016	2015
Cash Flow from Operating Activities		
Net Loss	(80,807,332,038)	(89,136,833,161)
Adjustments to Reconcile Net Loss to Net Cash		
Provided by (Used in) Operating Activities:		
Depreciation and Amortization Expenses	649,388,812	548,579,480
Gain on Disposal of Premises and Equipment	(8,068,923)	(4,342,373)
Write Off of Work in Progress	3,552,647	5,542,491
Net Gains on Sale of Investments	(23,806,669,816)	(4,148,489,034)
Interest Income	(53,216,942,052)	(47,026,729,520)
Interest Expense	82,273,407,779	91,861,122,338
(Gain) Loss from Non-cash Foreign Assets and Liabilities Cost Averaging	(57,742,594,083)	27,264,989,481
Gain from Decreasing in Provision for Contingent Losses on Forward Contracts under Resale Agreements	(47,256,471)	(54,790,053)
Net (Increase) Decrease in Accrued Revenues	(5,947,048)	498,315
Net Increase in Accrued Expenses	27,361,633	130,792,326
Net Decrease in Prepaid Expenses	1,659,761	492,264,621
	(132,679,439,799)	(20,067,395,089)
Cash Received on Interest Income	74,559,153,800	63,993,616,053
Cash Paid on Interest Expense	(58,864,352,251)	(70,626,805,005)
Loss from Operation before Changing in Operating Assets and Liabilities	(116,984,638,250)	(26,700,584,041)

Note: The accompanying notes form part of these financial statements.

Bank of Thailand
Statement of Cash Flows (continued)
For the Year Ended December 31, 2016

		Unit : Baht	
	Notes	2016	2015
(Increase) Decrease in Operating Assets			
Foreign Deposits		51,418,674,453	128,748,299,999
Reserve Tranche and Holdings of Special Drawing Rights		(2,138,162,581)	3,651,835,771
Loans		24,456,588,343	31,031,579,217
Other Assets		(5,119,958,813)	(7,553,028,029)
Increase (Decrease) in Operating Liabilities			
Deposits		(264,116,533,545)	214,238,616,297
Securities Sold under Repurchase Agreements		(40,284,000,000)	79,230,000,000
Debt Securities Issued by the Bank of Thailand		717,402,599,079	(95,221,197,871)
Other Liabilities		15,780,809,939	4,988,881,684
Net Cash Flow from Operating Activities		380,415,378,625	332,414,403,027
Cash Flow from Investing Activities			
Purchase of Domestic Securities		(66,916,197,080)	(66,785,357,828)
Proceeds from Sale of Domestic Securities		17,899,000,000	30,756,000,000
Purchase of Foreign Securities		(7,614,702,278,880)	(13,056,793,712,267)
Proceeds from Sale of Foreign Securities		7,520,382,979,780	12,880,227,329,539
Purchase of Premises and Equipment		(1,170,936,536)	(1,004,383,230)
Proceeds from Disposal of Premises and Equipment		10,773,513	7,268,922
Net Cash Flow from Investing Activities		(144,496,659,203)	(213,592,854,864)
Assets and Liabilities Revaluation Reserve on Cash		9,509,190,783	(2,636,904,703)
Net Increase in Cash and Cash Equivalents		245,427,910,205	116,184,643,460
Cash and Cash Equivalents at the Beginning of the Year		312,766,013,963	196,581,370,503
Cash and Cash Equivalents at the End of the Year	4	558,193,924,168	312,766,013,963

Note: The accompanying notes form part of these financial statements.

Bank of Thailand
Notes to Financial Statements
For the Year Ended December 31, 2016

1. General Information

The Bank of Thailand (the BOT) was established in accordance with the Bank of Thailand Act, B.E. 2485 as amended (the BOT Act). The BOT's objectives are to carry on such tasks as pertain to central banking in order to maintain monetary stability, financial institutions system stability and payment systems stability.

2. Basis of Preparation of the Financial Statements

The financial statements of the BOT have been prepared in accordance with Section 54 of the BOT Act, stipulating that the accounting of the BOT shall be in compliance with the generally accepted accounting principles except for a particular matter which the BOT Board has prescribed to be in conjunction with general practices of other central banks. The generally accepted accounting principles refer to Thai Financial Reporting Standards under the Accounting Professions Act B.E. 2547 including guidelines promulgated by The Federation of Accounting Professions.

The financial statements are the account of the BOT, not including the Currency Reserve, the Note Issuance Business and the Financial Institutions Development Fund (FIDF), and have been prepared under the historical cost basis unless otherwise disclosed in Note 3 (Summary of Significant Accounting Policies).

3. Summary of Significant Accounting Policies

3.1 Revenue and Expenses Recognition

Interest revenue and expense are recognized on a time proportion basis and the effective yield unless otherwise disclosed. Other revenue and expenses are recognized on an accrual basis. The expense caused by negative interest rates on foreign deposits is presented as a part of interest expense.

3.2 Assets and Liabilities Revaluation Recognition

Unrealized gains or losses from revaluation of assets and liabilities of the BOT are presented in the Assets and Liabilities Revaluation Reserve under the equity section as prescribed under Section 16 of the BOT Act.

3.3 Foreign Currency Transactions

Transactions denominated in foreign currencies are translated into baht at the exchange rates prevailing at the dates of the transactions. At year-end, assets and liabilities denominated in foreign currencies are revalued into baht at the exchange rates prevailing on the reporting date, in accordance with the BOT's guideline. Unrealized gains or losses from revaluation of foreign assets and liabilities are presented in the Assets and Liabilities Revaluation Reserve under the equity section.

3.3 Foreign Currency Transactions (continued)

Gains or losses from foreign currency transactions are recognized in the statement of income when the position of each foreign currency is decreased. Whenever the position of any foreign currency increases during the day, the cost of such foreign currency is calculated by using the weighted average cost (WAC) method. The WAC is also used as the cost of the same foreign currency sold on the same day. The accounting policy is consistent with the practices of other central banks, and is prescribed by the BOT Board by virtue of the BOT Act.

3.4 Forward Contracts

Forward contracts are used to hedge the risk arising from the exchange rate fluctuation and are presented at fair value. Unrealized gains or losses derived from changes in the fair value are presented in the Assets and Liabilities Revaluation Reserve under the equity section. Gains or losses on forward contracts are recognized in the statement of income on the settlement date.

3.5 Forward Contracts under Resale Agreements

The BOT has undertaken commitments with the government agencies and the state enterprises to resell foreign currencies in the future at the specific rates. The outstanding obligations are presented at fair value and the changes in the fair value are presented in the Assets and Liabilities Revaluation Reserve under the equity section.

3.6 Foreign Exchange Swap Contracts

Foreign exchange swap contracts are used for the purpose of liquidity management. Foreign exchange swap is an agreement to simultaneously exchange one currency against another with two different value dates. The outstanding of claims and obligations are revalued to baht at the exchange rates prevailing on the reporting date and net value changes are presented in the statement of financial position. Unrealized gains or losses from revaluation of the outstanding obligations are presented in the Assets and Liabilities Revaluation Reserve under the equity section. The difference between the spot and forward exchange rates shall be treated as interest income or interest expense on a time proportion basis.

3.7 Futures Contracts

Futures contracts are used to enhance the efficiency of international reserve management and to hedge risk arising from the interest rate or bond price fluctuation, and are presented at fair value. Unrealized gains or losses from changes in the fair value are presented in the Assets and Liabilities Revaluation Reserve under the equity section and are recognized in the statement of income when the settlement of the variation margin takes place.

3.8 Foreign Exchange Option Contracts

Foreign exchange option contracts are used to enhance the efficiency of international reserve management and to hedge risk arising from the exchange rate fluctuation, and are presented at fair value. Unrealized gains or losses from changes in the fair value are presented in the Assets and Liabilities Revaluation Reserve under the equity section. Gains or losses on exercise of the right under contracts or from foreign currency transactions are recognized on the expiration or exercise dates.

3.9 Investment in Securities

Domestic securities are held for the purpose of monetary policy implementation and are stated at amortized cost.

Foreign securities, including those managed by external fund managers, are held for the purpose of international reserve management and are mainly stated at fair value. Unrealized gains or losses from revaluation are presented in the Assets and Liabilities Revaluation Reserve under the equity section, and are recognized in the statement of income on disposal.

The cost of securities sold during the year is calculated based on the weighted average cost basis.

3.10 Loans

Loans are stated at carrying balances of principals. The accrued interests are included in “Other Assets”.

3.11 Premises and Equipment

Land is stated at cost. Buildings and equipment are stated at cost less accumulated depreciation.

Buildings and equipment are capitalized when their useful lives are over one year. The depreciation is calculated by using the straight-line method, based on the estimated useful lives of the assets, as follows:

Type of Asset	Useful Life
Buildings, Temporary Buildings and Improvements	5-20 years
Equipment	3-15 years

3.12 Intangible Assets

Intangible assets are stated at cost less accumulated amortization. The amortization is allocated by using the straight-line method over five years.

3.13 Heritage Assets

The BOT has held antiques that are considered heritage assets, such as antique textiles, coins and banknotes, which have been acquired by purchase and donation. They are held and maintained for the purpose of preservation and exhibition at the BOT’s museum, not for central bank’s function. Prior to 2005, those antiques purchased were recorded as expense. After that, they have been recorded as assets at acquisition prices and presented under “Other Assets”. The BOT does not record the antiques received from donation as assets. Register containing detail of all the items held at the museum is used for control purpose.

3.14 Debt Securities Borrowing

The BOT borrowed debt securities from specialized financial institutions and/or juristic persons, as prescribed by the BOT, and issued the BOT debt securities as collateral. The BOT has conducted debt securities borrowing transactions to enhance the efficiency of monetary policy implementation as well as to foster the development of money market and debt securities market in Thailand.

3.14 Debt Securities Borrowing (continued)

The debt securities borrowing fee is recognized in the statement of income. The borrowing amount is disclosed in "Commitments and Contingencies". When the BOT sold the borrowed debt securities under repurchase agreement, the amount of claim on debt securities under repurchase agreement is presented in "Other Assets" and the amount of obligations to return debt securities is presented in "Other Liabilities".

3.15 Post-employment Benefits**3.15.1 Defined Contribution Plans**

The BOT's Rules and Regulations for Provident Fund state that the BOT and the employees who are the members of the provident fund have to make contributions to the provident fund according to the stipulated conditions. This provident fund has already been registered under the Provident Fund Act B.E. 2530. The contributions paid to the provident fund, made by the BOT, are charged as expense in the statement of income.

3.15.2 Defined Benefit Plans

Defined benefit plans include pension plan, as prescribed by the BOT's Rules and Regulations for Pension Fund, and post-employment medical plan, as prescribed by the Rules and Regulations for Medical Care.

The obligations under defined benefit plans are calculated by using actuarial valuation method, the Projected Unit Credit Method, and are presented at present value as employee benefit obligations. The BOT recognized all related expenses in the statement of income and all actuarial gains and losses in the statement of comprehensive income in the period occurred.

4. Cash and Deposits

	Unit: Million baht	
	2016	2015
Cash and Cash Equivalents		
Cash	81,487	119,637
Domestic Deposits (Demand Deposits)	18	8
Foreign Deposits (Demand Deposits)	476,689	193,121
Total Cash and Cash Equivalents	558,194	312,766
Foreign Deposits (Time Deposits and Special Deposits)	232,119	295,926
Total	790,313	608,692

Foreign Deposits (Time Deposits) are held for the purpose of international reserve management rather than for the purpose of meeting short-term cash commitment.

5. Reserve Tranche and Holdings of Special Drawing Rights

	Unit: Million baht	
	2016	2015
Quota Subscribed to International Monetary Fund (IMF)	154,665	72,015
<u>Less:</u> IMF Current Account No. 1	(30,467)	(13,785)
Promissory Notes Payable to IMF	(102,030)	(37,358)
Reserve Tranche	22,168	20,872
Holdings of Special Drawing Rights	46,949	48,732
Total	69,117	69,604

6. Investment in Securities

	Unit: Million baht	
	2016	2015
Domestic Securities - Stated at amortized cost		
Government Bonds	287,312	240,268
Total Domestic Securities	287,312	240,268
Foreign Securities - Stated at fair value		
Treasury Bills and Short-term Debt Securities	703,916	622,077
Treasury Bonds and Long-term Debt Securities	2,052,317	2,035,172
Investment in Asian Bond Fund	20,113	20,532
Total Foreign Securities	2,776,346	2,677,781
Total	3,063,658	2,918,049

7. Loans

	Unit: Million baht	
	2016	2015
Loans to financial institutions for person damaged by flood	109,209	134,945
Contribution to the IMF under the NAB	2,837	1,650
Total	112,046	136,595

The loans to financial institutions for person damaged by flood have been provided in accordance with the Emergency Decree on Financial Aids for Person Damaged by Flood, B.E. 2555.

The contribution to the IMF under the New Arrangements to Borrow (NAB) is the commitment with the IMF as mentioned in Note 21.6.1.

8. Premises and Equipment

Unit: Million baht									
2016									
Value at Cost				Accumulated Depreciation				Net	
Opening Balance	Increase	Decrease	Closing Balance	Opening Balance	Increase	Decrease	Closing Balance		
Land	2,473	-	-	2,473	-	-	-	-	2,473
Buildings	4,791	15	-	4,806	2,786	212	-	2,998	1,808
Equipment	3,611	315	44	3,882	2,048	314	42	2,320	1,562
Work in progress	412	1,096	393	1,115	-	-	-	-	1,115
Total	11,287	1,426	437	12,276	4,834	526	42	5,318	6,958

Unit: Million baht									
2015									
Value at Cost				Accumulated Depreciation				Net	
Opening Balance	Increase	Decrease	Closing Balance	Opening Balance	Increase	Decrease	Closing Balance		
Land	2,473	-	-	2,473	-	-	-	-	2,473
Buildings	4,298	498	5	4,791	2,596	191	1	2,786	2,005
Equipment	2,727	1,017	133	3,611	1,943	235	130	2,048	1,563
Work in progress	1,000	930	1,518	412	-	-	-	-	412
Total	10,498	2,445	1,656	11,287	4,539	426	131	4,834	6,453

Depreciation expenses for the year 2016 and 2015 were THB526 million and THB426 million, respectively.

9. Other Assets

Unit: Million baht		
	2016	2015
Quota Subscribed to the IMF - baht	132,497	51,143
Net Assets from Foreign Exchange Swaps	16,686	14,584
Accrued Income	16,770	19,252
Investments in Other Organizations	1,588	1,648
Others	8,556	14,338
Total	176,097	100,965

9. Other Assets (continued)

Other assets - others as at December 31, 2016 and 2015 amounted to THB8,556 million and THB14,338 million, respectively, included the net balances of intangible assets (computer software and systems), amounting to THB243 million and THB232 million, respectively. Amortization expenses for the year 2016 and 2015 were THB123 million and THB122 million, respectively. The balance also included the heritage assets such as antique textiles, coins, and banknotes, mentioned in Note 3.13, amounting to THB5 million and THB5 million, respectively.

10. Deposits

	Unit: Million baht	
	2016	2015
Non Interest-Bearing Deposits		
Government	94,838	391,096
Financial Institutions	120,471	108,706
Others	19,847	19,694
	235,156	519,496
Interest-Bearing Deposits	51,992	31,767
Total	287,148	551,263

The interest-bearing deposits facility is used to maintain market interest rates within the interest rate corridors and to facilitate liquidity adjustment of money market participants. This is expected to enhance the transmission of monetary policy and financial markets development.

11. Allocations of Special Drawing Rights

The IMF's member countries are allocated Special Drawing Rights in proportion to their subscriptions in the IMF. As at December 31, 2016 and 2015, the BOT was allocated the balance of SDR970 million, which was equivalent to THB46,722 million and THB48,507 million, respectively.

12. Securities Sold under Repurchase Agreements

The outstanding balances of the securities sold under repurchase agreements in the domestic market as at December 31, 2016 and 2015 were THB310,306 million and THB350,590 million, respectively.

13. Debt Securities Issued by the Bank of Thailand

	Unit: Million baht	
	2016	2015
Bank of Thailand Bonds		
Remaining Maturity:		
1 year or less	2,365,655	2,193,062
over 1 year	762,966	625,923
<u>Less:</u> Held by the BOT	(25,225)	(160,757)
	3,103,396	2,658,228
Other BOT Debt Securities (Remaining maturity less than 1 year)	1,066,980	768,110
Total	4,170,376	3,426,338

The BOT has issued BOT bonds and BOT debt securities to be used as monetary policy instruments as well as to foster the development of money market and debt securities market in Thailand. In 2016, the interest paid on BOT bonds and BOT debt securities amounted to THB48,589 million and THB19,067 million, respectively. The interest paid was presented as part of interest expense.

BOT bonds held by the BOT resulted from the repurchase of BOT bonds to facilitate liquidity management in the money market.

14. Other Liabilities

	Unit: Million baht	
	2016	2015
IMF Current Accounts No. 1 and 2	30,467	13,785
Promissory Notes Payable to the IMF	102,030	37,358
Employee Benefit Obligations	5,795	5,420
Accrued Expenses	8,387	11,876
Others	2,723	1,450
Total	149,402	69,889

14. Other Liabilities (continued)

Employee Benefit Obligations as at December 31, 2016 included the obligation from pension plan amounted to THB4,286 million and the obligation from post-employment medical plan amounted to THB1,509 million. Changes in the present value of the employee benefit obligations are presented as follows:

	Unit: Million baht	
	2016	2015
Employee Benefit Obligations as at January 1	5,420	4,511
Past service cost	-	319
Current service cost	125	120
Interest cost	107	138
Benefit paid during the year	(498)	(441)
Net employee benefit obligations transferred	-	(7)
Actuarial loss	641	780
Employee Benefit Obligations as at December 31	5,795	5,420

The Significant Actuarial Assumptions

Average discount rates	2.04% - 5.86%
Average rate of increase in salaries	7.00%
Medical cost trend rate	5.00%
Mortality	Thai Mortality Table 2008

15. Statutory Appropriation

In 2002, THB165,000 million was transferred from the Special Reserve Account of the Currency Reserve to the BOT in accordance with the Emergency Decree on the Partial Transfer of Assets from the Special Reserve Account, B.E. 2545 in order to compensate for the accumulated losses and to enhance the stability of the BOT. The residual amount, after deducted by the accumulated losses, of THB27,308 million was presented as Statutory Appropriation. Since 2002, there has been no movement in this account.

16. Reserve for Stabilization of Profit Payable to the Government

As at December 31, 2016, the outstanding balance of the Reserve for Stabilization of Profit Payable to the Government was THB624 million. This reserve was accumulated from net profit after appropriation for the year 1990 - 1996 in order to maintain the profit payable to the government. The Ministry of Finance (MOF) gave consent to the profit appropriation rule. The balance of this account could be transferred as additional public revenue upon request by the MOF. Since 2002, no profit appropriation has been made to this account.

17. Assets and Liabilities Revaluation Reserve

	Unit: Million baht	
	2016	2015
Unrealized Gains from Foreign Exchange Revaluation of Assets and Liabilities	30,033	67,830
Unrealized Gains from Price Revaluation of Investments	169	22,330
Unrealized Gains from Revaluation of Derivatives	1,962	100
Unrealized Losses from Revaluation of Forward Contracts under Resale Agreements	(44)	(54)
รวม	32,120	90,206

Subject to Section 13 (2) of the BOT Act, the Assets and Liabilities Revaluation Reserve is established to accumulate gains or losses derived from the revaluation of the BOT's assets and liabilities.

18. Accumulated Losses

As at December 31, 2016 and 2015, the outstanding balances of Accumulated Losses were THB725,028 million and THB635,251 million, respectively. Changes to the Accumulated Losses are set out in the statement of change in equity.

For the year 2016, the losses were due to foreign exchange rates and interest payments for liquidity-absorbing monetary policy operations. The accumulated losses have no impact on the BOT's ability to continue as a going concern.

19. Other Expenses

	Unit: Million baht	
	2016	2015
Loss from Derivatives	11,686	3,644
Depreciation and Amortization	649	549
Others	2,051	2,757
Total	14,386	6,950

Loss from derivatives are mainly from futures contracts which were used to enhance the efficiency of international reserve management and to hedge risk arising from the interest rate or bond price fluctuation. However, when consider these investments in their entirety, net return on investment was a profit in 2016.

20. Remuneration of Key Management Personnel

The key management personnel of the BOT refers to the Governor, Deputy Governors, and members of the Boards and committees established under the BOT Act who have responsibility for planning, directing and supervising the activities of the BOT. In 2016 and 2015, the remuneration paid to key management personnel were THB62 million and THB62 million, respectively.

21. Commitments and Contingencies

As at December 31, 2016, the outstanding of commitments and contingencies of the BOT were as follows:

21.1 Spot Contracts

The BOT had the net outstanding obligations to buy foreign currencies equivalent to USD487 million and to sell foreign currencies equivalent to USD206 million, which will be due in 2017.

21.2 Forward Contracts

The BOT had the net outstanding obligations to buy foreign currencies equivalent to USD7,928 million and to sell foreign currencies equivalent to USD7,880 million, which will be due in 2017.

Furthermore, the BOT had the outstanding obligations under resale agreements to sell Japanese Yen equivalent to USD18 million, which will be due in 2017 - 2020.

The fair values of such forward contracts were presented in Note 9 (Other Assets) or Note 14 (Other Liabilities).

21.3 Foreign Exchange Swap Contracts

The BOT had the net outstanding obligations under foreign exchange swap contracts to buy foreign currencies equivalent to USD33,246 million and to sell foreign currencies equivalent to USD7,711 million, which will be due in 2017.

The net outstanding of such foreign exchange swap contracts was presented in Note 9 (Other Assets).

21.4 Futures Contracts

The BOT had the net outstanding obligations under bond futures contracts to buy equivalent to USD154 million and to sell equivalent to USD217 million, which will be due in 2017.

21.5 Other Agreements with Central Banks

21.5.1 The BOT has been part of the ASEAN Swap Arrangement (ASA), which provides for liquidity support among ASEAN member countries since 1977. Under the ASA, the BOT is obliged to contribute up to USD300 million and may request up to 2 times of its contribution, or USD600 million. In 2015, the BOT renewed the ASA for two years, which will remain in effect until November 16, 2017. In 2016, neither the BOT nor its counterparties activated the arrangement.

21.5.2 The BOT, together with the Ministry of Finance of Thailand, have been parties to the Chiang Mai Initiative Multilateralisation (CMIM) Agreement since March 24, 2010, which provides for liquidity support to ASEAN member countries, China, Japan and South Korea. The Agreement was amended on July 17, 2014 to enhance the effectiveness of the financing mechanism. That is, should a CMIM member face potential or actual financial difficulties, the BOT is obliged to contribute up to USD9,104 million. The BOT may also request up to 2.5 times of its contribution amount, or USD22,760 million. In 2016, neither the BOT nor its counterparties activated the agreement.

21.5 Other Agreements with Central Banks (continued)

21.5.3 The BOT has signed the Chinese Yuan/Thai Baht Bilateral Currency Swap Arrangement (BSA) with the People's Bank of China (PBC) with an aim to facilitate the use of local currencies in bilateral trade and direct investment settlement. The new BSA will make available a swap line with an amount of CNY70,000 million, equivalent to THB370,000 million, and will be effective for three years ending on December 22, 2017. In 2016, the BOT has renewed swap line in an amount of CNY500 million in order to ensure availability of CNY liquidity to facilitate cross-border trade and investment settlements of financial institutions in Thailand.

21.6 Commitments with the International Monetary Fund (IMF)

The BOT, with the consent of the Finance Minister, has commitments with the IMF as follows:

21.6.1 New Arrangements to Borrow (NAB) amounting up to SDR340 million, which will expire on November 16, 2017. The IMF made partial calls on the NAB from the BOT as presented in Note 7 (Loans).

21.6.2 The Note Purchase Agreement (NPA) under the 2012 Bilateral Borrowing Arrangements, amounting up to USD1,000 million, which will expire on September 15, 2017. However, the IMF did not make a request to activate the agreement in 2016.

21.7 Contingent Liabilities on Lawsuits

As at December 31, 2016, the BOT was involved in certain legal actions and claims arising from the ordinary course of business amounting to THB660 million. All cases are in process of court trial. However, the estimated amount of these claims, if the final judgment is made, will not have any material adverse effect on the BOT's financial position and operations.

22. Risk Management at the Bank of Thailand

The BOT's risk management framework adheres to the principles of good governance. The risk management processes and conducts are managed and closely monitored by a number of risk committees such as Risk Management Committee (RMC) and Financial Risk Management Sub-Committee (FRMC). In addition, the BOT Board has established Risk Oversight Committee (ROC), consisting of non-executive directors and outside directors, with the responsibility of assisting the BOT Board in overseeing that the BOT's overall risk management framework and processes meet the standard of good governance, as well as to assure that the Board is kept aware of significant risks. The Enterprise Risk Management Department is a key unit for implementing the BOT's risk management framework in accordance with the policies of the BOT and various Committees.

22.1 Financial Risk Management

22.1.1 The BOT's Financial Risks

The key financial risks for the BOT

22.1.1.1 The BOT's assets are exposed to foreign exchange rate risk as they are mainly denominated in foreign currencies, which are necessary for the implementation of monetary and exchange rate policy to ensure a stable financial environment. The BOT's liabilities, on the other hand, are mostly denominated in baht.

22.1.1 The BOT's Financial Risks (continued)

22.1.1.2 Interest rate risk emerges when the interest rate in domestic market, resulting from the conduct of monetary policy, is different from the interest rate in foreign markets where the BOT invests.

22.1.2 Financial Risk Management of International Reserves

Management of international reserves takes into consideration financial security, liquidity, return, and risk management. Investment of the international reserves in foreign assets has inherent financial risks, namely market risk, credit risk, and liquidity risk.

The main objectives of financial risk management of international reserves consist of:

- a. Preserving the value of the international reserves when measured in terms of major currencies, and
- b. Ensuring that financial risks of the international reserves are within an acceptable level, and that such risks are well diversified.

Financial risks of the reserves are managed in accordance with the following approaches:

22.1.2.1 Market risk, comprising interest rate risk and foreign exchange rate risk, is the risk of loss due to changes in the market value of assets or currencies.

The BOT manages market risk by setting the benchmark investment portfolio, in which asset and currency allocations are set in accordance with optimal risk/return trade-off, according to each portfolio's objectives, and within the BOT Board's risk tolerance limit. In addition, tracking error limits are then set to ensure that risk from active management is within an acceptable level.

The benchmark investment portfolio is constructed by standard methodology, to obtain optimal asset and currency compositions which yield the highest return at a given total risk level. The BOT also performs risk analysis by carrying out stress-tests to estimate potential impacts of various market scenarios on the reserves.

22.1.2.2 Credit risk is the risk that the BOT's counterparties or the issuers of the securities held by the BOT may default or may be unable to fulfill their financial obligations to the BOT. It includes the risk of deterioration in the value of securities from the downgrade of issue or of credit rating of issuer.

The BOT controls credit risk by using the following approaches:

- (1) Minimum Credit Rating, set for counterparties and issuers, to limit the credit value-at-risk to a low level.
- (2) Aggregate Credit Exposure Limits, set for counterparties and issuers in the form of deposit-equivalent exposure, based on the credit rating and number of counterparties.
- (3) Individual Credit Exposure Limit, set for each counterparty based on its credit rating. The limit may also be reduced based on indicators of potential credit downgrading.
- (4) Sovereign Credit Limits, based on country credit ratings, are used as constraints in benchmark construction.

22.1.2.3 Liquidity risk is the risk of loss arising from the inability to liquidate assets at a reasonable price within the specified period.

22.1.2 Financial Risk Management of International Reserves (continued)

The management of liquidity risk focuses on setting appropriate levels for illiquid assets based on the BOT's liquidity needs, and the cost-benefit comparisons between the returns from liquidity premiums and the costs of liquidation.

22.2 Integrated and Operational Risk Management

All departments in the BOT annually conduct Control Self-Assessment (CSA) in accordance with the BOT's Regulations, in order to improve the efficiency and effectiveness of work processes. In 2016, the BOT has strengthen risk management framework and developed further risk management tools to monitor key risks as follows:

22.2.1 Continuously strengthening the cybersecurity framework to prevent cyber threats, including, (1) Ensuring that the systemically important payment systems under the BOT's operation, namely the Bank of Thailand Automated High-value Transfer Network (BAHTNET) and Imaged Cheque Clearing and Archive System (ICAS) pass ISO 27001-2013 certification, and (2) Established Security Operation Center (SOC) to monitor cyber threats and respond to cybersecurity incidents and breaches in a timely manner.

22.2.2 Continue to develop Business Continuity Management (BCM) framework to ensure that the BOT is able to perform its critical functions in emergency situations. The BOT is also preparing BCP for cyber threat. Currently, construction of the BOT's additional backup site outside of the Bangkok Metropolitan Area is underway to ensure that BOT is enable to deal with severe risk scenarios that could have wide-scale impact. Moreover, BOT annually conducts BCP drill on disruption of critical systems, fire drill and emergency evacuation. The objective of the exercises is to be well prepared in case of adverse events.

22.2.3 Revised and developed Key Risk Indicators (KRIs) and Risk Dashboard to cover all key risks. The tool is used to enhance the monitoring of key risks and facilitate risk reporting to the RMC to determine corrective or preventive actions.

23. Fair Value of Financial Assets and Liabilities

23.1 Fair Value Hierarchy of Financial Assets and Liabilities

As at December 31, 2016, the financial assets and liabilities measured at fair value are presented as follows:

	Unit: Million baht			
	2016			
	Level 1	Level 2	Level 3	Total
Financial Assets				
Foreign securities	1,827,935	948,411	-	2,776,346
Derivative assets	36	2,929	-	2,965
Total	1,827,971	951,340	-	2,779,311
Financial Liabilities				
Derivative liabilities	-	1,003	-	1,003
Resale liabilities	-	123	-	123
Total	-	1,126	-	1,126

23.1 Fair Value Hierarchy of Financial Assets and Liabilities (continued)

	Unit: Million baht			
	2015			
	Level 1	Level 2	Level 3	Total
Financial Assets				
Foreign securities	1,652,148	1,025,633	-	2,677,781
Derivative assets	-	441	-	441
Total	1,652,148	1,026,074	-	2,678,222
Financial Liabilities				
Derivative liabilities	-	341	-	341
Resale liabilities	-	180	-	180
Total	-	521	-	521

23.2 Fair Value Hierarchy

Level 1 - quoted prices (unadjusted) in active markets for identical assets and liabilities that the BOT can access at the measurement date.

Level 2 - calculated by pricing models which were widely used in the market, and inputs are observable for the asset or liability, either directly or indirectly.

Level 3 - calculated by pricing model, and inputs are unobservable for the asset or liability.

23.3 Valuation Methodology and Techniques used in Fair Value Measurement

Fair value of foreign securities is based on market prices published by a widely recognized market price provider. Normally, the price providers take into account liquidity of the securities as well as liquidity of the securities markets in determining the valuation methodology. For fair value of liquid securities, providers will directly use the prices quoted by groups of designated dealers. For fair value of illiquid securities or illiquid markets, in absence of credible market quotes, providers will carry out calculation using a pricing model with market prices input from comparable assets or liabilities.

For derivatives instruments, fair values are measured by using valuation techniques such as cash flow discounting and models generally adopted in the market. Observed market data such as interest rate and exchange rate are used in the calculation.

24. Approval of the Financial Statements

On March 22, 2017, the BOT Board authorized the issuance of these financial statements.



BANK OF THAILAND



The Bank of Thailand Board



The Bank of Thailand Board



Mr. Ampon Kittiampon

Chairman



Mr. Veerathai Santiprabhob

Deputy-Chairman



Mr. Paiboon Kittisrikangwan

Member



Mr. Mathee Supamongse

Member



Mrs. Ruchukorn Siriyodhin

Member



Mr. Achporn Charuchinda

Member



Mr. Pichai Chunhavajira

Member



Mr. Krisada Chinavicharana

Member



Mr. Chalee Chantanayingyong

Member



Mr. Porametee Vimolsiri

Member



Mr. Chiradet Ousuwat

Member



Mr. Suthad Setboonsarng

Member



Mr. Pruettipong Srimachand

Secretary



Mrs. Somruedee Rungsiyaphornratana

Assistant Secretary

The Bank of Thailand Board

as of 31 December 2016



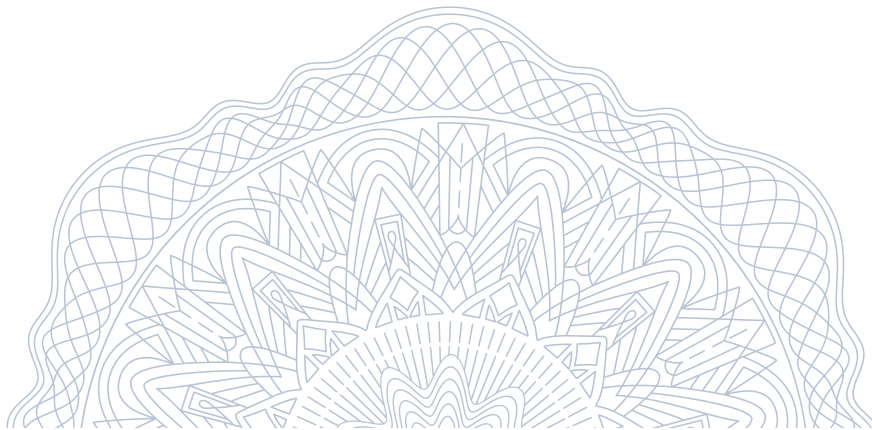
Chairman	Mr. Ampon Kittiampon
Deputy-Chairman	Mr. Veerathai Santiprabhob
Member	Mr. Paiboon Kittisrikangwan
Member	Mr. Mathee Supamongse
Member	Mrs. Ruchukorn Siriyodhin
Member	Mr. Achporn Charuchinda
Member	Mr. Pichai Chunhavajira
Member	Mr. Krisada Chinavicharana
Member	Mr. Chalee Chantanayingyong
Member	Mr. Poramettee Vimolsiri
Member	Mr. Chiradet Ousuwat
Member	Mr. Suthad Setboonsarng
Secertary	Mr.Pruettipong Srimachand
Assistant Secertary	Mrs.Somruedee Rungsiyaphornratana

BOT Executives

as of 31 December 2016

Governor	Mr. Veerathai Santiprabhob
Deputy Governor, Corporate Support Services and Banknote Management	Mr. Paiboon Kittisrikangwan
Deputy Governor, Monetary Stability	Mr. Mathee Supapongse
Deputy Governor, Financial Institutions Stability	Mrs. Ruchukorn Siriyodhin
Assistant Governor, Human Resources and Organization Development Group	Mr. Nutavoot Pongsiri
Assistant Governor, Corporate Strategy and Relations Group	Mrs. Chantavarn Sucharitakul
Assistant Governor, Planning and Budgeting Group	Miss Nawaporn Maharagkaga
Assistant Governor, Information Technology Group	Mr. Permsuk Sutthinoon
Assistant Governor, Supervision Group	Mr. Ronadol Numnonda
Assistant Governor, Internal Audit Group	Mrs. Supawadee Punsri
Assistant Governor, Banknote Management Group	Mr. Woraporn Tangsaghasaksri
Assistant Governor, Monetary Policy Group	Mr. Jaturong Jantarangs
Assistant Governor, Financial Markets Operations Group	Miss Vachira Arromdee
Assistant Governor, Financial Institutions Policy Group	Mr. Somboon Chitphentom
Assistant Governor, Management Assistance Group	Mr. Pruettipong Srimachand
Assistant Governor, Payment Systems Policy and Financial Technology Group	Miss Siritida Panomwon Na Ayudhya





Pursuing Sustainable Economic Well-Being





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Bank of Thailand

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