BANK OF THAILAND

Financial Stability Report

2020

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Message from the Governor

The outbreak of the coronavirus disease (COVID-19) is the event that has inflicted the most severe damage on global and Thai economies in the past several decades. Lockdowns have been implemented in many countries to contain the pandemic, causing economic activities to come to a halt. Firms and their employees have to face severe income shocks and liquidity shortage, and their ability to repay debt have deteriorated. As a consequence, the quality of loans and corporate bonds has declined. This posed risks to financial institutions and bond investors and would affect confidence in the financial system as a whole. Given the significant economic damage and uncertainty involved, the government and the central bank needed to employ fiscal and financial measures at an unprecedented scale in a timely manner. Key measures implemented include debt moratorium, liquidity assistance for affected borrowers, and facilities to restore confidence in the financial markets, alongside with exceptionally accommodative monetary policy. Financial institutions have also played an important role in the transmission of these measures to support economic recovery and to ensure that financial markets can function normally.

Although economic activities have resumed after lockdowns were relaxed, the Thai economy is expected to take at least two years from the trough in 2020Q2 to return to the pre-COVID-19 level. The Thai financial institutions system remains sound with ample capital, provisions, and liquidity, and can continue to extend credit to support economic recovery. On the other hand, corporates and households in different segments seem to recover at a varying pace. For example, recovery is expected to be more drawn-out for firms and employees in tourism-related sectors. As some of these firms and workers still do not have access to credit, measures are needed to stimulate local demand and target assistance to those who are severely affected. Key priorities include the provision of credit to viable small and medium enterprises (SMEs) that are facing short-term liquidity issues, as well as the restructuring of debt in accordance with borrowers' long-term potential. In addition, measures undertaken have also aimed to ensure that financial institutions continue to maintain sufficient buffer to cope with risks and uncertainties posed by the COVID-19 situation, and can support recovery and economic restructuring in the periods ahead.

Going forward, the task of safeguarding national financial stability will be especially challenging, given that recovery is likely to be prolonged and uncertain. This is partly due to the impact of the public health situation on economic activities and debt serviceability of households and SMEs. Moreover, the COVID-19 pandemic has also exposed structural problems and vulnerabilities that have been building up over a long period of time. In particular, the household debt situation is expected to become even more fragile, as COVID-induced income shocks continue to hit households who are already highly indebted. On the whole, events that have transpired during the national outbreak in 2020Q2 have demonstrated that risks emerging in a particular area can rapidly and forcefully spread to the rest of the financial system. Maintaining financial stability will thus require a close collaboration among regulators in assessing risks and implementing preventive and corrective measures in a timely manner.

The Bank of Thailand (BOT), together with the Office of the Securities and Exchange Commission (SEC) and the Office of Insurance Commission (OIC), publishes the *Financial Stability Report* on an annual basis. It is our hope that the *Report* will inform the public of the risks and impacts of the COVID-19 crisis on financial stability, the necessities and motivations behind the measures implemented to support the economy, as well as the vulnerabilities and risks that can affect financial stability in the future. This information will be useful in assessing risks and preparing for the challenges ahead.

Mr. Sethaput Suthiwartnarueput
Governor
29 December 2020

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Executive Summary

The Thai economy has been severely impacted by the COVID-19 pandemic, similar to other countries worldwide. The corporate sector and its workforce experienced a sharp drop in income due to containment measures and international travel restrictions. **This affected their debt serviceability, especially for small and medium enterprises (SMEs)** with limited access to funding and **households** who were already highly indebted. **The impact on corporates and households was also transmitted to the Thai financial system** through financial institutions' deteriorated loan quality and diminishing market confidence, which could increase rollover risks in the corporate bond market. However, **the large-scale and timely implementation of both financial and fiscal measures** helped lessen the impact, particularly the liquidity assistance given to affected SMEs and households during lockdowns, liquidity backstops for corporate bond markets and mutual funds to restore confidence, and more accommodative monetary policy. Such measures, along with **the resilience and capacity of financial institutions to assist their customers, played an instrumental role in supporting the domestic economy and restoring normal financial market functioning** as lockdown restrictions were eased.

Economic activities started to improve after lockdown restrictions were relaxed, while the synchronized use of fiscal and financial measures–as well as those implemented by financial institutions–helped support households, businesses and financial institutions through the crisis. This is reflected in the economic contraction that turned out milder than expected by market participants, and the substantial number of borrowers who have been able to resume payments once debt payment holiday measures expired. **Nonetheless, it is projected that the Thai economy will not return to the pre-COVID-19 level until 2022**, with the prospect that recovery will likely remain uncertain and uneven across segments of corporates and households. Policy measures in the post-lockdown period, therefore, have shifted from broad-based measures to ones that **target affected segments of corporates and households, taking into account the nature of their problems and their potential to recover.** The objective is to prevent their liquidity problems from escalating into solvency risks that could hinder economic recovery, while ensuring that **financial institutions maintain sufficient buffer** to safeguard against risks and support economic recovery going forward.

Looking ahead, the Thai financial system will continue to face significant challenges due to the uncertainty surrounding economic recovery, particularly from the risks of new waves of COVID-19 outbreak, the delayed re-opening of the country for foreign tourists, and the continuity of government's economic stimulus. Households and SMEs' ability to service debt will continue to be the key vulnerabilities in the financial system. Therefore, effective and timely measures will be required, along with continued monetary policy easing, with an aim to prevent economic "scars" that may hinder long-term growth and transmit risks to the financial system. **Moreover, the COVID-19 crisis has led to significant**

structural changes within the corporate sector, which have an implication on financial stability. Large conglomerates, who are likely to recover much faster than SMEs, will become of even greater systemic importance to the Thai economic and financial system, and may generate more spillovers to other sectors. In addition, the commercial real estate sector is likely to face greater risks from excess supply, which could arise due to changing consumer behavior.

While the situation remains uncertain, the BOT, the SEC, and the OIC will continue to collaborate closely in assessing risks and evaluating the adequacy and effectiveness of measures undertaken. The regulators will stand ready to impose additional measures to contain financial stability risks and support economic recovery, in close cooperation with relevant government agencies. In addition, financial regulations will be reviewed as necessary to ensure that they continue to be appropriate in the changing economic and financial context.

Chapter 1: Impact of COVID-19 on the Thai economy and financial system

The Thai economy was severely impacted by the COVID-19 pandemic, similar to other countries worldwide. The corporate sector, notably small and medium enterprises (SMEs), and households saw their income decline substantially, which affected their ability to repay debt. Impacts on corporate and household sectors were transmitted to the Thai financial system through loan quality of financial institutions, corporate bond investors, and market confidence. Although the situation has improved after gradual relaxation of lockdown restrictions, the economy will still take some time to recover. On the other hand, the Thai financial system remains sound, and the financial sector has played a key role in helping the government in supporting economic recovery. Looking forward, it is necessary to continue to closely monitor the situation and comprehensively assess risks. Additional measures also need to be prepared should the situation become more severe or prolonged than expected.

1.1 Overview of the impact of COVID-19 on the global economy and financial system

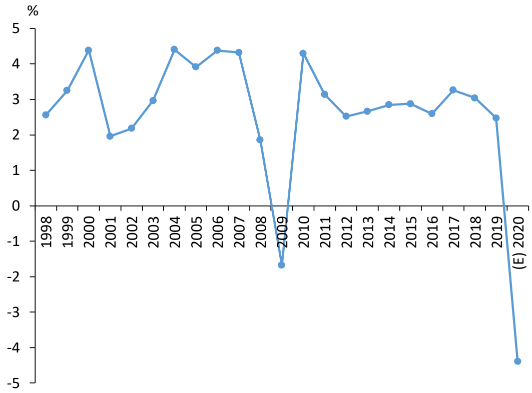
The COVID-19 crisis caused the global economy to contract most severely in the past several decades. The International Monetary Fund (IMF) estimated that the world's gross domestic product (GDP) in 2020 could contract by as much as 4.4 percent[1] (Chart 1.1), significantly worse than the 1.7 percent contraction of global GDP observed during the global financial crisis (GFC) in 2008-2009. The virus had spread rapidly across the world and taken its toll on public health systems. Hence, governments in many countries had instigated national lockdowns to contain the pandemic, disrupting global economic activities. As a consequence, businesses and households faced income shocks and lacked liquidity to operate businesses and sustain livelihood, while investors' confidence declined broadly. Although economic activities have started to recover as lockdown restrictions were gradually relaxed, for many countries the level of economic activity has not returned to normal levels. This is because corporates and households' balance sheets have been critically affected by lockdown and social distancing measures, as well as international travel restrictions given the unavailability of vaccines. Moreover, people's lifestyles and business practices have also changed, so overall economic recovery has been gradual and uneven across business sectors. Indeed, manufacturing sectors are able to recover relatively quickly, whereas the service sectors, especially those relying on tourism income such as hotels and airlines, will take much longer to recuperate.

Given the extent of economic damage and uncertainty involved, namely the time used for vaccine development and the possibility of new outbreaks, governments and central banks worldwide had to introduce large fiscal and monetary measures. Many countries saw their budget deficits rose to unprecedentedly high levels. At the same time, many central banks cut their policy rates to historic lows and used unconventional measures, such as asset purchases and

[1] Estimates as of October 2020.

private sector loans, to stabilize the financial system in the same way as during the GFC.

Chart 1.1 Global GDP Growth

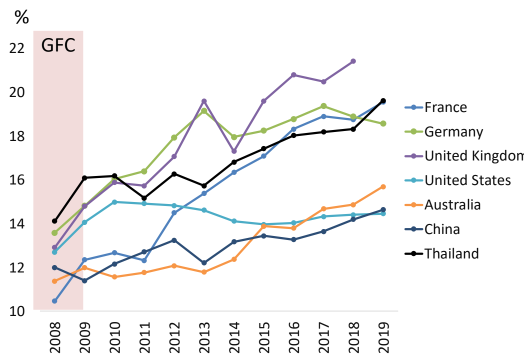


Source: International Monetary Fund (data as of October 2020).

However, the approaches to address the COVID-19 crisis differed in detail from those of the GFC, because the two crises had different causes. The GFC was the result of excessive risk taking in the financial sector. This included the issuance of sub-prime mortgage loans to borrowers with low debt serviceability, as well as the concentrated investment in mortgage-backed securities (MBS), which caused some financial institutions to go into bankruptcy and led to a credit crunch. Therefore, the measures dealing with the GFC initially focused on preventing risks in the financial sector from spreading to other sectors. These included, for example, the injection of liquidity into troubled banks, the purchasing of bonds issued by troubled banks, and the purchasing of MBS to restore investors' confidence. Following the GFC, the banking industry has gone through extensive regulatory reforms. As a result, banks around the world, including Thai banks, have become much more resilient than during the GFC. This was reflected in significantly higher levels of capital adequacy ratio (CAR) in 2019, compared the levels in 2008 **(Chart 1.2)**.

On the other hand, the COVID-19 crisis did not propagate from the financial sector, but stemmed from an outbreak of a new disease yet to have a cure. The situation was highly unpredictable and difficult to control, so lockdowns and travel restrictions had to be implemented, causing direct impact on economic activities and confidence in the financial system. Financial institutions, which have remained sound, were instead indirectly affected. Policy measures in countries around the world have therefore focused on: (1) supporting the real sector, which was severely impacted by the decline in economic activities and incomes (e.g. cash handouts to low-income households and wage subsidies for affected workers); and (2) restoring financial market confidence (e.g. corporate bond purchases in the secondary market). Furthermore, many countries have also provided incentives for financial institutions to support the corporate sector by temporarily relaxing certain regulations, providing low-cost liquidity, and giving credit guarantees on corporate loans.

Chart 1.2 Banks' capital adequacy ratio by country

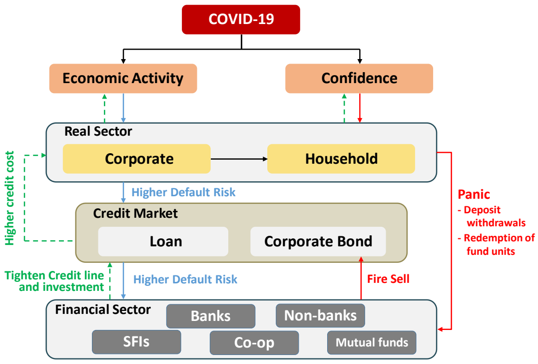


Source: CEIC.
Note: 2019 data for the UK are not shown.

1.2 Impact of COVID-19 on the Thai economy and financial system

1.2.1 Risk transmission from the real sector to the financial sector and the negative feedback loop (Chart 1.3)

Chart 1.3 Risk transmission from the real economy to the financial sector



Source: Bank of Thailand.

The COVID-19 pandemic caused a severe impact on Thailand's real sector, both households and businesses, and transmitted risks to the financial sector through two main channels as follows.

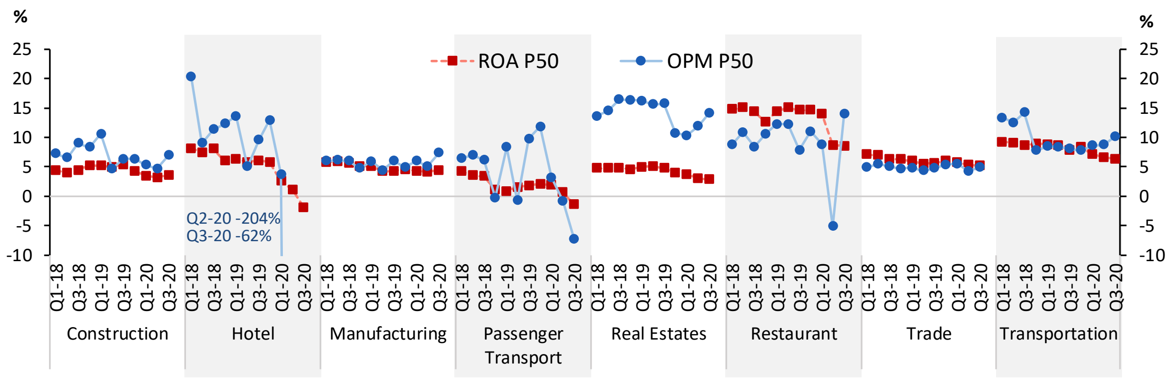
(1) Funding and investment channel: The COVID-19 outbreak and lockdown measures led to **a sharp decline in incomes of households and corporates,** as well as changes in business practices and lifestyles, which could lead to economic restructuring in the future. Some business and households might not be able to adapt to the new economic context, **raising the risks of defaults and credit downgrades** and affecting key players in the financial system, such as savings cooperatives, insurance companies, mutual funds, and financial institutions. On the flipside, given the state of the economy and the degree of uncertainty, **investors and financial institutions also became much more cautious in investing or lending,** which could exacerbate the situation or delay economic recovery.

(2) Financial market confidence channel: Investors became concerned over companies' default risks and possibility of credit rating downgrades during the peak of the COVID-19 crisis. So, investors sold corporate bonds at fire-sale prices, causing bond prices to drop quickly. As a result, bondholders suffered losses due to fallen prices and companies found it much more expensive to raise funds through bond issuance or could not raise funds at all, which further worsen their liquidity positions.

1.2.2 Impact on the corporate sector

During the lockdown phase, the corporate sector was broadly affected by the economic interruption and saw revenues and profits sharply declined. This was reflected in a substantial decline in the rates of return on assets (ROA) and operating profit margins (OPM) in the first two quarters of 2020. The decline was particularly severe in the sectors that relied on tourism and faced constraints in reducing costs, namely hotels, airlines, and restaurants **(Chart 1.4). Many firms faced liquidity shortage, and some of them were unable to access funding as before**, given that investors and financial institutions were cautious of risks and more guarded in making investment or lending decisions.

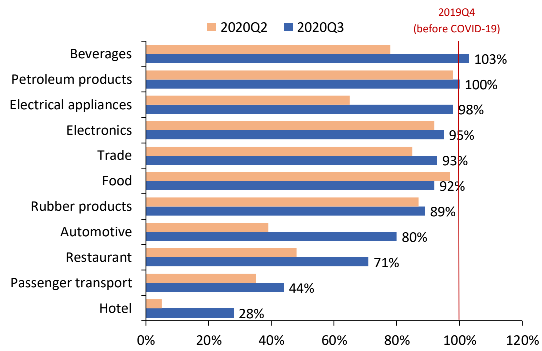
Chart 1.4 Return on assets (ROA) and operating profit margins (OPM) of listed companies



Sources: Stock Exchange of Thailand and Bank of Thailand's calculations.

After lockdown restrictions were relaxed and the government implemented measures to stimulate domestic spending and tourism, the Thai economy has been gradually recovering from its deepest contraction in 2020Q2. However, it is expected to take at least two years for overall economic activities to return to the pre-COVID-19 level, as international travel restrictions will likely remain in place until vaccines become widely available, which is expected for late-2021. Moreover, recovery has been uneven for businesses in different sectors. Economic activities in some sectors—such as food and beverages, petroleum, and electrical appliances—have returned close to pre-COVID-19 levels. Meanwhile, businesses in tourism-related services sectors are still unable to fully recover despite the improved domestic demand. This is especially the case for the hotel and the passenger transport sectors, where activities have recovered[2] to only 28 and 44 percent of their pre-COVID-19 levels, respectively **(Chart 1.5)**.

Chart 1.5 Indicators of economic recovery by sector in 2020Q2 and Q3 relative to the pre-COVID-19 period



Sources: Office of Industrial Economics, Revenues Department, Ministry of Tourism and Sports, and Bank of Thailand's calculations.

In some sectors, the level of economic activities may not return to pre-COVID-19 levels due to the following reasons: (1) Some sectors have been facing structural concerns since before the COVID-19 crisis, such as **the steel and metal industry's competitiveness issue, the hard disk drive industry's production technology issue, and the real estate sector's oversupply issue.** (2) The COVID-19 crisis has changed the business environment for many sectors, resulting in excess capacity under the new economic context. For example, **hotel**

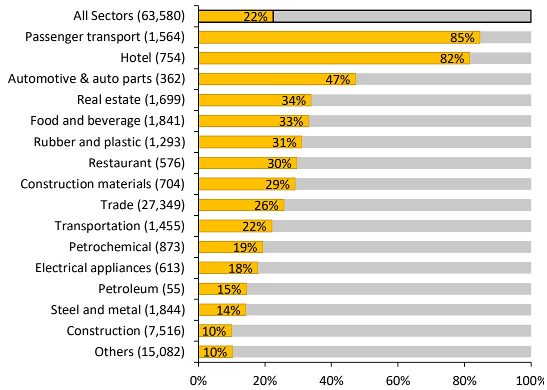
[2] Economic activities are measured using the manufacturing production index (MPI) for all manufacturing sectors; the service production index (SPI) for the passenger transport sector; the number of Thai and foreign tourists (Ministry of Tourism and Sports) for the hotel sector; and registration and legislation fees for the trade and restaurant sectors. For the trade sector, the trade index is calculated from gross sales of wholesale and retail businesses registered in the VAT database, including gross sales of automotive, gold, and e-commerce businesses (e.g. Lazada and weloveshopping).

businesses might need to adapt to lower demand in the foreseeable future. **Thus, these sectors must adapt to survive in the short term and adjust their business models to align with the changing economic landscape in the long term.**

In addition, recovery also depends on the size of businesses. SMEs, most of which need working capital to support their business operations, face greater constraints in terms of access to funding compared to large businesses. On top of this, financial institutions also tend to be more cautious in lending to SMEs during the time of heightened uncertainty. This could mean a lack of recovery opportunity or delayed recovery, for SMEs that still have business potential but could not access additional funding.

In view of the above, **the BOT carried out an assessment of the liquidity risks of SMEs over the next two years,** under (1) the assumptions on the recovery path of revenues and economic activities in each business sector based on economic forecasts as of September 2020[3] and (2) an additional assumption on the inability of firms to fully convert account receivables and inventories into cash[4]. The assessment found that **22 percent of SMEs with outstanding loans to financial institutions could have insufficient liquidity to cover debts and expenses over the next two years.** Most of these liquidity-constrained SMEs are concentrated in two groups: (1) sectors directly affected by COVID-19, namely **the passenger transport and the hotel sectors**; and (2) sectors severely affected by the decline in domestic and external demand due to lower household income, such as **the automotive and auto parts, the real estate, and the trade sectors[5] (Chart 1.6).**

Chart 1.6 Proportion of the number of SMEs expected to face liquidity problems over the next 2 years in each business sector



Source: Bank of Thailand.

Short-term liquidity problems faced by firms could escalate into solvency problems, which could further impact other sectors in the economic system through employment (Chart 1.7) or supply chains. For example, many trading firms, who rely heavily on foreign tourists and are yet to recover, could reduce their employment. Also, firms in the automotive and the wholesale trade businesses, whose revenues have fallen, could reduce orders from partners or suppliers, which could have an impact on employment by other firms in related supply chains. **Hence, SMEs' liquidity problems must be addressed by**

[3] The recovery paths of revenues and economic activities over the next three years vary across business sectors. Most business sectors faced the largest adverse impact in 2020, with the hardest-hit sectors being the hotel, passenger transport, and auto parts sectors. Meanwhile, the construction materials, petrochemical, and petroleum sectors were not affected as much. After 2020, each business sector is likely to recover slowly. Sectors that were severely hit would likely take longer to recover, with the level of activity not returning to the pre-COVID-19 level yet even in 2022. However, latest indicators showed better-than-expected recovery in many sectors, especially in the automotive sector.

[4] It is assumed that companies can turn 85 percent of account receivables and 50 percent of inventories into liquidity.

[5] While the trade sector has a relatively low proportion of firms facing liquidity risks, the number of liquidity-constrained firms is significantly high and thus could transmit risks broadly.

appropriate policy measures, such as six-month debt moratorium measures, soft loans through financial institutions, and promoting the setting of standardized credit terms, which could alleviate SMEs' liquidity problems in the long term arising from trading partners' request for extension of credit terms (see Chapter 2 for more details).

Chart 1.7 Number of SMEs and employment in each business sector

Note: For the trade sector, the total number of SMEs is 1.3 million (shown as 0.4 million in the chart to facilitate comparison across business sectors).
Sources: Office of Small and Medium Enterprises Promotion, National Statistical Office, and Bank of Thailand's calculations.

In addition, firms facing liquidity shortage would have higher risks of default, which could lead to a deterioration in the quality of loans issued by financial institutions. Issuers of corporate bonds could also be subject to significant credit downgrades, affecting investors' confidence. As a consequence, fire sales of corporate bonds could occur, causing an impact on bond prices and bondholders in a broader scale. In fact, between January and September of 2020, the credit ratings of 31 bond issuers had been downgraded, almost doubling from 16 issuers in the same period of the year before. An important example to note is the case of **Thai Airways International Public Company Limited (Thai Airways PLC)**, which had been facing financial concerns and then were severely impacted by the COVID-19 pandemic. With its credit rating initially at 'A', Thai Airways PLC saw its rating plummeted to 'BBB', 'C', and finally 'D' when the Central Bankruptcy Court approved its request for rehabilitation. As its debts are now under moratorium, **creditors of Thai Airways PLC have all been affected, particularly saving cooperatives who are the major investors in bonds issued by the company.** Some of these savings cooperatives faced panic redemptions by their members.

During the lockdown period, the COVID-19 pandemic had a broad-based impact on the corporate sector, which could spill over to the economic and financial system through several channels. As lockdown restrictions became gradually relaxed, businesses would need time and capital to recuperate. In this regard, both government agencies and financial institutions would have a key role to play in supporting recovery in the corporate sector. This could be achieved through stimulating domestic demand to increase revenues and providing liquidity assistance and funding to support business restructuring (see Chapter 2 for more details).

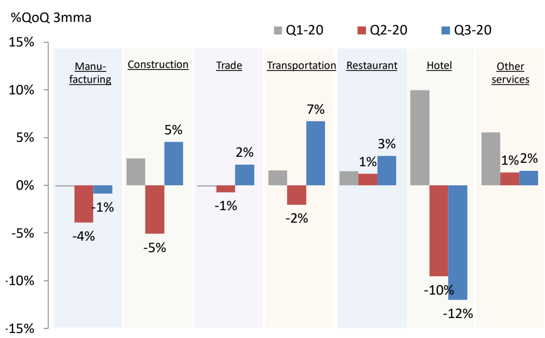
1.2.3 Impact on the household sector

The Thai household sector, which was already highly indebted, became even more financially vulnerable as a result of the outbreak of COVID-19 and lockdown measures. Household incomes fell sharply as a result of reduced employment and working hours. According to data from the National Statistical Office, employment in manufacturing and services sectors dropped by more than 706,169[6] persons in 2020Q2.

[6] Seasonally adjusted data.

After lockdown measures were eased, businesses in many sectors started to recuperate and increase employment during 2020Q3. However, employment continued to decline in sectors with lagging recovery **(Chart 1.8)**, such as the hotel sector, in which up to 77[7] percent of the workforce earned less than 15,000 baht per month. This group of employees constituted high-risk households with low buffers to withstand economic fluctuations, and hence a higher possibility of default. **Government agencies thus implemented income and liquidity measures to help these households. These included, for example, social security relief measures, cash support and special loans, and measures to help retail borrowers alleviate their debt burdens,** which would lessen the impact on their creditors as well (see Chapter 2 for more details).

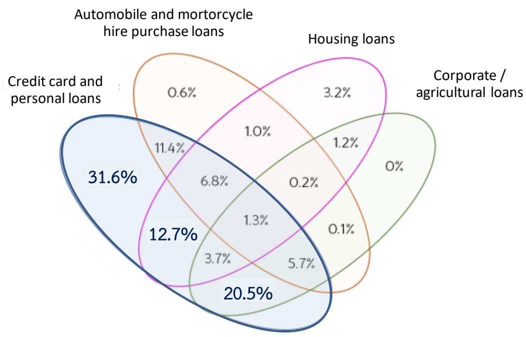
Chart 1.8 Changes in employment in 2020



Sources: National Statistical Office and Bank of Thailand's calculations.

Once these support measures expire, however, households might face challenges in resuming debt repayments. A study by the Puey Ungphakorn Institute for Economic Research (PIER), based on data from the National Credit Bureau (NCB), found that if the Thai economy were to remain subdued with no additional measures introduced in the second half of 2020[8], 2.1 million people who entered the government's support measures could have trouble repaying debt[9] in 2020Q4. This could potentially lead to cross defaults with other financial institutions or non-banks, as the majority of households have more than one loan products **(Chart 1.9)** and borrow from more than one financial service provider. **Hence, such borrowers should be closely monitored, and additional measures should aim to provide targeted and comprehensive assistance going forward.** These would include tourism campaigns to increasing household income, debt restructuring schemes, debt clinics, and promotion of financial discipline (see Chapter 2 for more details).

Chart 1.9 Flower of debt for borrowers expected to face debt servicing problems in 2020Q4



Source: Chantarat et al. (September 2020), "The Changing Frontier of Thailand's Household Debt and Policy Challenges", Puey Ungphakorn Institute for Economic Research, based on calculations using data from the National Credit Bureau (NCB).

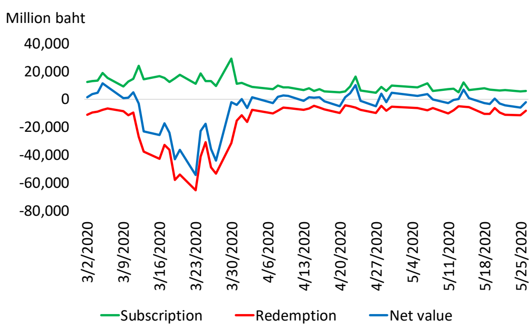
1.2.4 Impact on financial markets

The impact of COVID-19 on the ability of firms around the world to service their debts caused investors to lose confidence and led to fire sales of

[7] Data from the National Statistical Office's Labor Force Survey in 2019, which include: (1) skilled and unskilled professionals and (2) daily and monthly contract workers.
[8] The study has not included the second phase of debt moratorium.
[9] A borrower who "could have trouble repaying debt" means one who is unlikely to be able to repay debt within the specified period in full in the case of installment loans, or the minimum amount in the case of revolving loans. This is proxied by the number of borrowers who remain in the support measures or require further loan assistance.

corporate bonds, particularly in foreign financial markets where corporate bond prices fell sharply. Some daily fixed-income (daily FI) funds in Thailand, which invested in those foreign bonds, saw their net asset values decline significantly as a result. This, in turn, caused investors to hastily redeem their mutual fund units. To meet redemptions, the funds had to sell liquid assets as well as Thai corporate bonds, which put downward pressure on local bond prices and created a ripple effect on other daily FI funds in the market **(Chart 1.10)**. The developments described above significantly affected liquidity in the corporate bond market, where mutual funds are major participants. During March-May of 2020, corporate bond spreads rose steadily, with those of investment grade bonds rising by 0.79-0.86 percent. Moreover, some mutual funds were closed in order to protect the interests of unitholders.

Chart 1.10 Net subscription or redemption of daily FI fund units



Source: Office of the Securities and Exchange Commission.

Additionally, investors' loss of confidence also had an effect on the ability of issuers to rollover maturing bonds. During April-May of 2020, the total value of new bond issuances was <u>lower</u> than the total value of expiring bonds by an average of 22,264 million baht per month. While before the COVID-19 pandemic, the value of newly issued bonds normally <u>exceeded</u> the value of maturing bonds by 21,000 million baht per month on average. If issuers were unable to issue additional bonds and had no alternative sources of funding to repay investors, they could default on their debt. This could affect investors' sentiment towards the corporate bond market and propagate risks to the real economy.

To prevent repercussions to the broader economy, government agencies swiftly introduced measures to restore investors' confidence. These included the expansion of the credit limit in which mutual funds could borrow or engage in repurchase agreements with banks, as well as the setting up of the Mutual Fund Liquidity Facility (MFLF) and the Corporate Bond Stabilization Fund (BSF) (see Chapter 2 for more details).

Once the bond market became more stable, companies were able to resume fundraising activities and credit spreads started to decline for bonds rated 'A' and above. **Daily FI funds increased their holdings of liquid debt securities** from 29 to 45 percent of net asset value (NAV) and held more than 95 percent of NAV in high quality (rated 'A' or above) government and corporate bonds. Meanwhile, **companies became more geared towards longer-term bond issuance to shore up liquidity in a time of uncertainty.** The average term of new bonds rose from 4.8 years in the year before to 5.3 years. On the other hand, **non-investment grade and unrated issuers with high rollover risks managed to avoid default by making partial repayments of principals and extending maturity dates by one year on average, during which investors would be compensated with higher coupon rates.** During January-September 2020, 14 issuers sought extensions for bonds worth 14,863 million baht (0.4 percent of total corporate bonds outstanding).

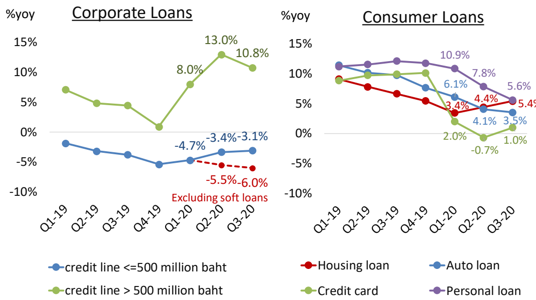
However, uncertainty remains high, especially for debt securities with credit ratings in the BBB, non-investment grade, and unrated segments, in which credit spreads rose significantly from March through May of 2020 and have remained elevated since, reflecting investors' lack of confidence. Within these segments, real estate developers constitute a significant proportion of bond issuers, accounting for about 20 percent of BBB-rated issues and 50 percent of non-investment grade and unrated issues. Given that the real estate sector was already facing oversupply and then further impacted by lower demand due to the pandemic, close monitoring of the situation and risks within the sector as well as in the corporate bond market would be essential going forward.

1.2.5 Impact on the financial sector

Prudent oversight and risk management in the past allowed banks to be able to withstand the impact from economic contraction and financial market volatility. The banking system has accumulated ample capital and provisions, possessing a BIS ratio of 19.8 percent and a non-performing loan (NPL) coverage ratio of 149.7 percent at the end of 2020Q3.

However, the COVID-19 pandemic also raised significant risks in the banking system by way of lower profitability and deteriorating loan quality. The system's ROA had declined from 1.03 percent at the end of 2020Q1 to 0.52 percent at the end of 2020Q3. During the same period, the NPL ratio had risen from 3.05 to 3.14 percent. Furthermore, as corporates and households faced higher liquidity and debt serviceability risks due to uncertainty regarding the end of the outbreak, banks became more cautious in their provision of loans, especially to high-risk borrowers. Although corporate loan growth in 2020Q3 was actually higher than before COVID-19 as large corporates shifted their source of funding from bond to loans, lending to SMEs[10] (not including the impact of soft loan measures) contracted by as much as 6.0 percent year-on-year, compared to a contraction of 4.7 percent year-on-year at the end of 2020Q1. Meanwhile, growth of consumer loans fell slightly, mostly due to the slowdown in auto loans and personal loans, which accounted for 46 percent of consumer loans **(Chart 1.11)**.

Chart 1.11 Loan growth of the commercial banking system



Source: Bank of Thailand.

Amid highly uncertain conditions, the BOT placed a particular emphasis on capital adequacy assessments in order to ensure that banks would be able to withstand risks that could increase in the periods ahead. In 2020[11], stress tests were carried out both by regulators (top down) and individual banks (bottom up) under an adverse scenario, which assumed a two-digit economic contraction following a new wave of outbreak and lockdowns implemented globally **(red line in Chart 1.12)**. The stress tests[12]

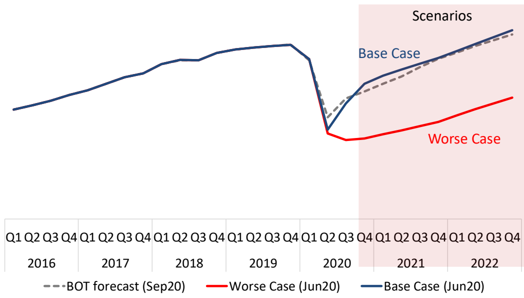
[10] Firms whose credit lines with each commercial bank does not exceed 500 million baht.

[11] The stress test in 2020 assessed the financial position of commercial banks in 2020-2022.

[12] This was conducted under the assumption that debt holiday measures would expire in 2020, whereas SME

found that **the Thai banking system's BIS ratio remained at a sufficiently high level for accommodating crisis situations.**

Chart 1.12 Stress test scenarios for the Thai economy



Source: Bank of Thailand.

Furthermore, the SEC and the OIC also carried out stress tests to assess the impact on the mutual fund industry (daily FI funds and MMFs) and the insurance industry (life and non-life insurance companies). Under the adverse scenario[13], the tests showed that both the mutual fund and the insurance industries possessed strong liquidity and financial positions and could withstand impending risks.

However, as the future remains highly uncertain, the banking, mutual fund, and insurance industries must be prepared to deal with potentially higher risks and their impact, which could be more severe than anticipated. They must also maintain adequate levels of liquidity and capital buffers in order to: (1) support business operations amid uncertainty and risks, which could rise along with the potential decline in credit quality once support measures expire; and (2) support economic recovery going forward.

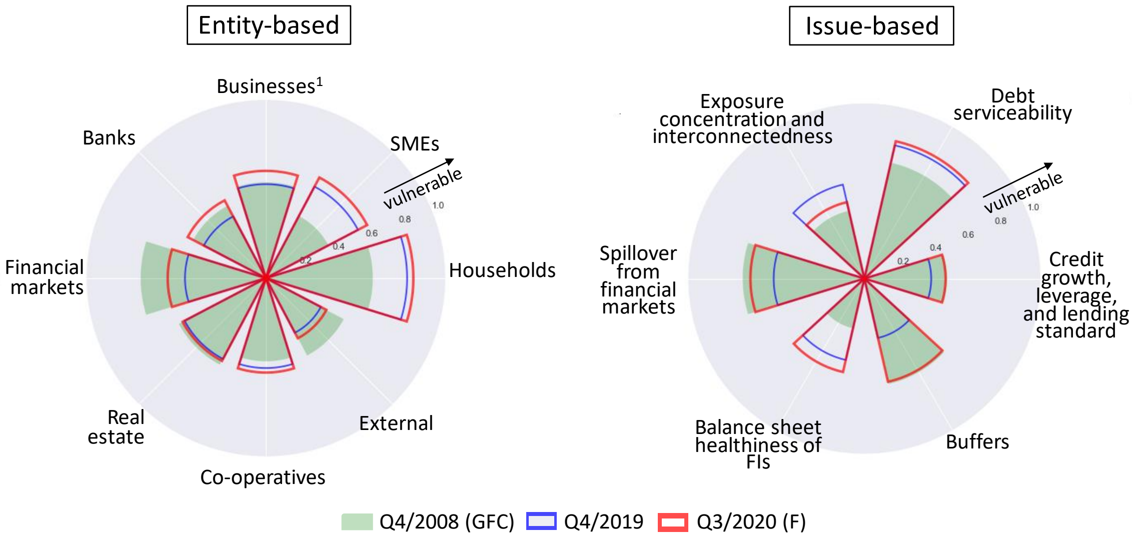
In conclusion, the COVID-19 pandemic has made households and businesses, especially SMEs, more fragile with lower ability to service debt. Despite improved conditions in 2020Q3, recovery will still take time. On the other hand, the Thai financial sector remains resilient, but will need to maintain ample buffers to safeguard against risks arising from declining credit quality and to support economic recovery in the periods ahead. On the financial market side, circumstances have improved after 2020Q2, but risks remain due to the uncertainty of the COVID-19 situation **(summary of risks to Thailand's financial stability in Chart 1.13)**[14]. Therefore, the situation should continue to be closely monitored and risks comprehensively assessed, so that relevant authorities can implement timely measures if risk events occur or the situations turn out more severe or prolonged than expected.

soft loans, pre-emptive debt restructuring measures, and the temporary reduction of the FIDF fee would end in 2021.

[13] The adverse scenario stress tests carried out by the SEC and the OIC were under the assumptions of economic contraction, asset fire-sales, and a rise in insurance compensation due to higher mortality rate and medical expenses.

[14] With regard to the Financial Stability Dashboard, risk assessments consist of two dimensions: entity-based and issue-based. The analysis is based on composite indicators derived from 80 key economic and financial time series, compared across time periods. For each entity/issue, the composite score is calculated using average percentiles based on the empirical CDFs of individual time series (1 = most fragile compared to historical data). Data on loan quality have been adjusted to correct for the change in accounting standard in early 2020, under the assumptions that: (1) %SM as of December 2019 was equal to %Stage 2 in January 2020; and (2) %NPL in December 2019 was equal to % Stage 3 in January 2020.

Chart 1.13 Thailand's Financial Stability Dashboard



Source: Bank of Thailand.
Note: [1] Businesses of all sizes including SMEs; (F) forecasts.

Chapter 2: Measures in response to COVID-19 in the past and going forward

The implemented policy measures to contain the impact of the COVID-19 outbreak, ranging from timely and sufficiently large-scale fiscal and financial policies to accommodative monetary policy, played a key role in limiting the adverse effect of the pandemic, preventing the situations from escalating into a financial crisis, and supporting economic recovery going forward. (1) During the lockdown period, liquidity support measures for businesses and households affected by the COVID-19 pandemic, in tandem with the BOT's liquidity backstop facilities aiming to restore investor confidence in the financial markets, helped support the economy and allowed domestic financial markets to resume their normal functioning. (2) During the re-opening period, demand stimulus and support measures for businesses and households, which were shifted from broad-based measures to more targeted and tailored to the different problems faced by each group of borrowers and their recovery potential, helped prevent the liquidity problems of businesses and households from escalating into solvency issues and supported economic recovery. In addition, the prudential measure of urging financial institutions to maintain buffers has made the financial institutions system as a whole more resilient to shocks and uncertainties due to COVID-19 situations, while allowing them to maintain the flow of credit to the real economy to support economic recovery and restructuring going forward.

Although the COVID-19 outbreak posed severe consequences to the economic and financial system, the timely implementation of sufficiently large-scale financial and fiscal policies, along with additional monetary policy easing, played a vital role in preventing the situations from escalating into a financial crisis and providing support for economic recovery going forward. More specifically, the financial and fiscal policies were aimed at supporting affected businesses and households and restore confidence in the financial markets. On the monetary policy front, the policy interest rate was cut to its historic low at 0.5 percent per annum, while financial institutions' contribution to the Financial Institution Development Fund (FIDF) was reduced temporarily from 0.46 to 0.23 percent of the deposit base until end-2021 to allow financial institutions to pass on reduced financing costs to their customers.

Several policy measures were implemented during the lockdown and re-opening phases and were used in a complementary manner. (1) <u>During the lockdown phase:</u> Fiscal policies in the form of subsidy and expense reduction, coupled with financial policies aimed at providing liquidity support to affected businesses and households, played a key role in ensuring that businesses could continue to operate and households had enough liquidity to cover daily expenses amid the period of severe income shocks. In addition, measures to restore confidence in the financial markets helped alleviate the pressure of asset fire-sales and panic redemptions of mutual fund units, preserving the functioning of financial markets. (2) <u>During the re-opening and recovery phase:</u> Government measures to boost domestic consumption and revive the business sector, fiscal and financial policies designed to address the diverse problem natures and recovery potential across groups of households and businesses with an aim to prevent liquidity problems from turning into insolvencies (liquidity-driven insolvencies), and the prudential policy of urging financial institutions to maintain buffer, will support economic recovery and restructuring in a sustainable manner in the new normal context.

Key financial and fiscal policy measures, both the implemented ones and those in progress, can be summarized as follows.

2.1. Support measures for the corporate sector

2.1.1 During the lockdown phase: **Policy measures were focused on reducing debt-servicing burdens and providing liquidity support to businesses that were affected by broad-based income shocks, especially for SMEs** whose funding tends to be more constrained compared to medium and large businesses. Details are as follows.

(1) Measures to encourage financial institutions to help borrowers impacted by COVID-19 pre-emptively before becoming non-performing by extending credit to replenish businesses' liquidity positions and pre-emptive debt restructuring, in which the restructured debts can be immediately classified as performing[15] and the creditors are not required to report to the National Credit Bureau (NCB). This regulatory flexibility will last for two years (until 31 December 2021). **Another measure was the broad-based debt payment holiday for SMEs that hold a credit line with financial institutions of up to 100 million baht and were still not yet classified as non-performing**[16], lasting for 6 months (from 22 April to 22 October 2020). The goal was to support small SMEs with limited funding access and liquidity buffers compared to their larger peers. As of the end of September 2020, the number of SMEs that had requested assistance from commercial banks and specialized financial institutions (SFIs) amounted to 1.13 million accounts, with total debt outstanding of 2.14 trillion baht. Out of this figure, 1.07 million accounts (with 1.36 trillion baht worth of debt outstanding) entered the debt payment holiday measure. After the debt payment holiday ended, data indicated that most SME borrowers were able to resume their debt payments, as economic activity started to pick up after the lockdown measure was lifted.

(2) Measures to provide liquidity support to viable SMEs that were temporarily affected by COVID-19, so as to ensure their business continuity amid income shocks. Key measures include: **(i) BOT's soft loan program for financial institutions to lend to SMEs**[17] **(total program size of 500 billion baht with the maximum interest rate charged to borrowers of up to 2 percent per year).** The government guarantees financial institutions up to 60-70 percent of the additional loan loss provision for soft loans in case that borrowers become non-performing, and also covers the first six months of interest payments. **(ii) The soft loan scheme by the Government Savings Bank (GSB) (total scheme size of 150 billion baht with the maximum interest rate charged to borrowers of up to 2**

[15] Equivalent to stage 1 classification (performing) with no sign of significant increase in credit risk (SICR).

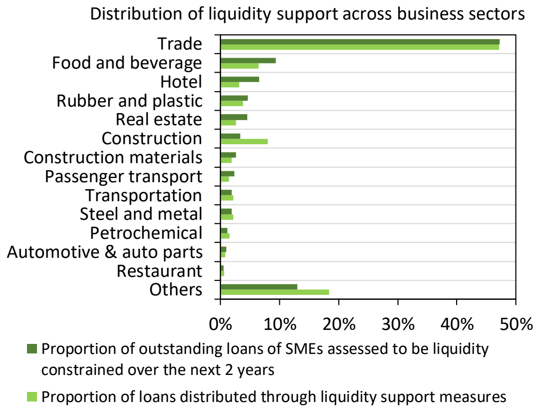
[16] Debt moratorium for SMEs affected by the COVID-19 outbreak without being considered in default or losing good credit record, in accordance with the Emergency Decree on the Provision of Financial Assistance for Entrepreneurs Affected by COVID-19 Pandemic, B.E. 2563.

[17] SMEs that have existing business credit lines with each financial institution not exceeding 500 million baht as of 31 December 2019.

percent per year). And (iii) the SME loan guarantee scheme by Thai Credit Guarantee Corporation (TCG), in which additional fund under the Portfolio Guarantee Scheme Phase 8 (PGS 8) will be allocated to support troubled debtors affected by COVID-19. The projects under this scheme include, for instance, the SMEs Tourism Rehabilitation program (total size of 3.7 billion baht) and the SMEs New Life program (total size of 10 billion baht). Additional support measures introduced by TCG include certain criteria relaxation and debt burden alleviation schemes, such as the extension of credit guarantee under PGS 5-7 for additional five years with zero commission fees and the guarantee fee payment holiday for 12 months. From March to October 2020, the new loans given to SMEs under the three schemes mentioned above totaled about 260 billion baht. According to the findings based on SME liquidity risk assessment in Chapter 1, **loans from the support programs were distributed quite well across sectors** in line with the distribution of SME loan outstanding across sectors **(Chart 2.1)**. Nonetheless, **the total size of support was still considered inadequate to meet liquidity needs of all SMEs that were estimated to become liquidity-constrained within the next two years.**

After the measures had been implemented for some time, some SMEs still faced limitations in accessing funds under the BOT's soft loan program due to the following two reasons. First, the eligibility criteria did not cover all groups of borrowers. For example, one condition stated that the borrower must have an existing credit line with the financial institution, so that the financial institution that was already familiar with the borrower could help the borrower quickly. Second, due to the uncertainty surrounding COVID-19 situations, financial institutions' credit costs from extending loans to some groups of borrowers might rise to the point that was unjustified by interest incomes and guarantees given by the government. This resulted in the subsequent fine-tuning of the soft loan criteria to increase loan disbursement (see 2.1.2 (2)).

Chart 2.1 Distribution of bank loan and liquidity support given to SMEs across business sectors



Note: Outstanding of bank loans to SMEs as of August 2020; BOT soft loans as of 20 July 2020; GSB soft loans given via commercial banks between March-April 2020; and TCG credit guarantee between March-May 2020.
Source: Bank of Thailand.

2.1.2 <u>During the re-opening phase:</u> **Businesses started re-opening but with uneven paces of recovery across groups of businesses. In this light, policy measures were thus tailored to serve the diverse natures of problems and viability across different groups of businesses. This was done in conjunction with the introduction of consumption stimulus packages to boost business revenues.** (1) For viable firms facing temporary liquidity shortage, they need to be catered with additional liquidity support and, in some cases, debt restructuring in accordance with the borrowers' debt serviceability. This is to ensure business continuity during the post-pandemic rebound period and prevent liquidity-driven insolvencies. (2) For firms facing business or financial problems since before the pandemic (i.e., low profitability or high debt) and/or needing to change their business models to survive, they need a combination of measures tackling both their financial problems and business restructuring needs, as follows.

(1) Measures to encourage financial institutions to assist customers in a proactive and targeted manner, by applying appropriate measures to each debtor instead of employing broad-based support to every debtor[18]. (i) Borrowers with sufficient income to repay debt after the termination of broad-based SME debt payment holiday program should continue repaying debt to reduce their own long-term debt burden and provide room for financial institutions to extend credit further to other affected debtors. In fact, the majority of debtors participating in the SME debt payment holiday program indicated that they could continue repaying debt after the program ends. (ii) For borrowers who cannot meet payment obligations or can make only a partial repayment, financial institutions need to extend help until the debtors have adequate income to resume paying off their debts. Several examples of support measures include the extension of debt payment holiday period for SFIs customers, adjustment of debt payment condition in accordance with debtors' debt serviceability to prevent delinquency, and other appropriate measures, such as one-stop debt-restructuring service for multi-creditor debtors under the DR BIZ program. Note that the BOT has issued a guideline which allows financial institutions to freeze the loan classification status (i.e. asset classification standstill) until the end of 2020 for borrowers who are in the process of debt restructuring, in order to incentivize creditors to expedite debt restructuring with their borrowers.

(2) Measures to support viable businesses facing temporarily liquidity shortage during the period of slow economic rebound. The measures include revising the soft loan criteria and improving the efficacy of TCG's credit guarantee schemes, as follows: (i) The funding provision schemes for SMEs in business sectors that were hit hard by the pandemic and would take long time to recover, for instance, liquidity support package for tourism-related SMEs under the GSB's soft loan scheme. (ii) The six-month extension of application period for the BOT's soft loan program and the revision of the soft loan eligibility criteria to include SMEs listed in the Market for Alternative Investment (mai) and firms selling products both on cash and on credit, which were previously disqualified due to being classified as financial businesses. (iii) The introduction of TCG's special PGS Soft Loan Plus scheme, in which the TCG's credit guarantee will take place from the third year onwards (with maximum guarantee duration of up to eight years). This is to complement the guarantee offered by the government covering the first two years, as stated in the Emergency Decree on the Provision of Financial Assistance for Entrepreneurs Affected by COVID-19 Pandemic, B.E. 2563 (i.e. the BOT's emergency decree on soft loan). This measure is designed to assure banks and encourage them to lend more to SMEs. The government is also in the process of expanding the size of TCG's credit guarantee scheme, so that the funding would be more accessible to viable SMEs. In addition, both public and private agencies are in collaboration to establish regulatory standard for credit

[18] See the press release Moving from blanket to targeted assistance for SMEs, 16 October 2020.

term to help solve liquidity problem of SMEs in the long term, as trading partners tend to delay or extend credit terms with SME creditors. To this end, the regulatory authorities, the Office of Trade Competition Commission and Ministry of Commerce, have set up a sub-committee to tackle this issue, which is expected to be done by early 2021.

(3) Measures to support financial restructuring in conjunction with business restructuring for firms that are facing problems but could still adapt to survive in the changing business landscape. The government agencies are in the process of designing measures to promote financial restructuring, such as using other funding channels (e.g. capital market mechanism), alongside with new loan provision for business restructuring, debt restructuring in accordance with debtors' ability to pay in the long term, as well as setting up mechanisms to take over businesses or purchase core assets of businesses, whose owners cannot take the burdens during the period of slow economic rebound, while granting rights for business owners to repurchase their businesses or assets at fair prices once economic conditions recover.

(4) Measures to boost domestic demand to increase business revenues. Examples include: (i) "Rao Tiew Duay Kan" (We Travel Together) stimulus campaign, in which the government subsidizes accommodation, food, tourist attraction entry fees, and plane ticket costs to boost domestic travel spending and thus help increase revenues and liquidity of tourism-related businesses (1 July 2020 to 30 April 2021); and (ii) "Shop Dee Mee Kuen" (Shop and Payback) stimulus campaign, offering individual taxpayers income tax rebate for tax year 2020 of up to 30,000 baht when purchasing goods and services, to stimulate domestic spending (23 October to 31 December 2020).

2.2 Support measures for the household sector

2.2.1 During the lockdown phase: **Policy measures consisted of debt relief measures, expense reduction policy packages for households**, in addition to measures to encourage financial service providers to lend support to their affected borrowers who were not yet classified as non-performing, **and liquidity support measures undertaken by the government to strengthen liquidity positions of households affected by the COVID-19 pandemic.** Key policy measures are as follows:

(1) Phase-one measures[19] to support retail borrowers during the pandemic, with an emphasis on urging financial service providers (commercial banks, SFIs, and non-banks) to provide broad-based debt relief assistance to their borrowers. To this end, the BOT introduced minimum debt relief measures, such as reduction of minimum payment rate or conversion to term loan (for debtors with credit card and revolving loans) and three-month deferral of both principal and interest payments or six-month deferral of principal payment (for debtors with hire purchase or leasing obligations). As of the end of September 2020, retail borrowers totaling 10.8 million accounts, with an outstanding loan of 3.6 trillion baht[20], participated in the mentioned schemes (accounting for 31 percent of the number of retail credit accounts and 42.4 percent of loan

[19] Additional support measures for debtors during the COVID-19 pandemic outbreak (Thai version), 26 March 2020.

[20] Data on the progress in providing assistance to borrowers by commercial banks, SFIs, and non-banks as of the end of September 2020, collected by the BOT.

outstanding of commercial banks, SFIs, and non-banks, as of the end of June 2020). Of which, more than half were personal loan accounts, which were more likely to become delinquent based on findings from the Puey Ungphakorn Institute for Economic Research (see details in Chapter 1).

After the phase-one measures came to an end in June 2020, the data as of September 2020 showed that half of the measure's participants did not opt in for the second-phase debt relief measures. This reflected that a number of households could resume debt payments after the lockdown measure had been lifted (see details in 2.2.2).

(2) Measures to reduce insurance costs for retail policyholders. The OIC issued the extension of insurance premium payments for life and health insurance policies, the reduction of premiums of life insurance policies, the increase of ceiling on policy loans, as well as the waiving or reduction of interest rates charged on policy loans. For non-life insurance, on top of the premium reduction measure, policyholders are also allowed to pay in installments for fire and miscellaneous insurance policies. Non-life insurance companies also have the flexibility to collect premiums on a daily, monthly, or quarterly basis to alleviate policyholders' burden and offer them a variety of options.

(3) Cash transfer campaigns launched by the government to help households affected by COVID-19. For example, the government launched **"Rao Mai Ting Gun" (You Will Never Be Left Behind) project** to give a 5,000 baht monthly cash payout for three months (April-June 2020) to freelance workers outside the Social Security System, given these workers were hit especially hard and had limited access to credit compared to workers in other occupations. Moreover, the government also introduced **remedial measures for workers in the Social Security System;** for example, those who have not paid the whole six-month contribution or have started working for less than 26 days were given monthly cash disbursement of 5,000 baht for 3 months (June-August 2020).

2.2.2 <u>During the re-opening phase:</u> **Policy responses were aimed to provide tailored support to suit the problem nature of each borrower by allowing the borrowers to "opt in" for help, rather than giving out broad-based help. This is to promote good credit culture, as some household debtors have started earning income and are capable of repaying debt, and to target additional supports to those who are still being affected. In addition, the measures intended to encourage financial institutions to restructure debt in a way that aligns with the borrowers' long-term debt serviceability.** Important measures in this phase are as follows:

(1) Phase-two measures[21], aiming to alleviate debt burden of retail debtors who are still being affected by the pandemic or bearing high debt burden, provide liquidity support to viable retail borrowers, and facilitate debt restructuring in a way that suits each borrower's long-term debt serviceability. The measures included: (i) the reduction of interest rate ceiling by 2-4 percent for credit card and personal loans under the BOT supervision, in order to alleviate debt burden of

[21] See more details in Phase-two support measures for retail borrowers affected by COVID-19 (Thai version), 19 June 2020.

borrowers who were charged at the ceiling rate (which account for quite a small proportion of total retail borrowers), while limiting the impact on profitability of financial service providers; (ii) the increase in credit line ceiling for credit cards and personal loans under the BOT supervision (both revolving and installment types) for debtors who need extra credit and exhibit good credit record[22]; and (iii) the extension of coverage and duration of debt relief measures for retail borrowers affected by COVID-19[23], in which the financial service providers must present a range of minimum debt relief measures for borrowers to select based on product types, such as reduction of minimum payment rate, conversion of short-term to long-term loan, reduction of installment payment, and deferral of installment or principal payment. In addition, financial service providers must aid borrowers and provide adequate information for borrowers' decision making (e.g. comparison of debt burden before and after participating in the measure).

(2) Measures to speed up debt restructuring in accordance with debt serviceability of borrowers to alleviate their debt burdens, such as term extension, conversion of short-term to long-term loan, and interest rate reduction. **This includes debt consolidation scheme[24] for borrowers having multiple loan type within the same financial institution or financial business group.** The debt consolidation scheme was particularly designed for borrowers who have housing loans and other unsecured loans to be able to consolidate their debts to reduce their interest payment burden. Moreover, with regard to the **Debt Clinic**, **the eligibility criteria were revised for credit card and personal loan borrowers with NPL status, and the support measures were extended to be effective until June 2021**[25] to help alleviate borrowers' financial burden during this difficult time, as follows: (i) payment deferral until June 2021 without being identified as defaulted for those who cannot meet their debt repayment obligation; and (ii) 1 or 2 percent interest rate reduction for those who can repay 40 or 80 percent of installment, respectively, to reduce burden for borrowers who can continue servicing their debt.

(3) Measures to reduce living expense burden for low-income borrowers and maintain purchasing power in the economy. These measures include: (i) **purchasing-power boosting campaign for state welfare cardholders** in which the government provides 500 baht per person per month subsidy for their necessity goods spending (October 2020-March 2021); and (ii) **"Khon La Krueng" campaign** in which the government subsidizes 50 percent of food, beverage, and other consumption goods expense with a limit of 150 baht per person per day or 3,500 baht per person throughout the campaign period (23 October 2020-31 March 2021).

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[22] For those who earn an average monthly income of less than 30,000 baht, by expanding the credit line from 1.5 to 2 times of average monthly income temporarily until 31 December 2021 (effective since 1 August 2020).

[23] And were not classified as NPLs as of 1 March 2020. Note that the minimum assistance measures were effective since 1 July 2020.

[24] See more details in Additional assistance measures by debt consolidation (Thai version), 29 August 2020.

[25] See the press release Debt Clinic revising two support schemes "principal reduction and debt deferral", effective until mid-2021 to mitigate the effect of COVID-19 (Thai version), 24 October 2020.

2.3 Measures to safeguard financial market stability

2.3.1 <u>During the lockdown phase:</u> **Policy measures were aimed at restoring investor confidence in the financial markets and preserving market functioning, thereby requiring timely and prompt establishment of liquidity backstop facilities for corporate bond markets and mutual funds.** During March to May 2020, investors were worried that corporate bond issuers would not be able to meet their debt obligation, which could subsequently lead to credit rating downgrade. As a result, there was a panic run on mutual funds investing in corporate bonds and a fire sale of corporate bonds. Important facilities put in place are as follows:

(1) Establishment of liquidity backstop facility to support mutual funds facing liquidity constraint in the financial markets (Mutual Fund Liquidity Facility: MFLF)[26] to provide liquidity to financial institutions that lend support to MMFs and daily FI funds that invest in high quality assets but are liquidity-constrained due to panic large-scale redemption from unit holders in a short period of time. Such event could trigger a wave of corporate bond fire sales, which in turn could affect market prices and investor confidence in the corporate bond market. Through the MFLF facility, the BOT injects liquidity by making special-rate repo transactions with the financial institutions that lend support to MMF and daily FI funds. Since the MFLF's inception in 24 March 2020, the outstanding value of transactions made through MFLF reached its peak at 56,047 million baht[27].

(2) Establishment of the Corporate Bond Stabilization Fund (BSF)[28], with total size of 400 billion baht, to maintain liquidity and functioning of the corporate bond market as a funding source for businesses. Via the facility, the BOT will provide funding to the BSF to purchase corporate bonds issued by firms with investment grade rating and having bonds mature in year 2020-2021, at the penalty rate of 1-2 percent above market interest rates. This vehicle acts as a backstop to ensure investors that bond issuers can roll over their maturing bonds and that the corporate bond market remain a channel for raising funds for firms amid the highly uncertain COVID-19 situations.

(3) Measures to provide temporary liquidity support to fixed income mutual funds. The SEC revised regulatory framework to increase the limit in which the mutual funds can borrow or make repurchase agreement transactions from 10 to 30 percent of end-of-the-day net asset value (NAV), and to increase the single entity limit for term funds so that they could increase their purchase of securities from daily FI funds during the distressed period.

All the aforementioned measures have restored investor confidence and sustained the continuation of corporate bond market's functioning. The net amount of mutual fund redemptions, which reached its peak at 54,234 million baht on 23 March 2020, turned to be the net purchase amount of 13,657 billion baht in April, and the number of mutual

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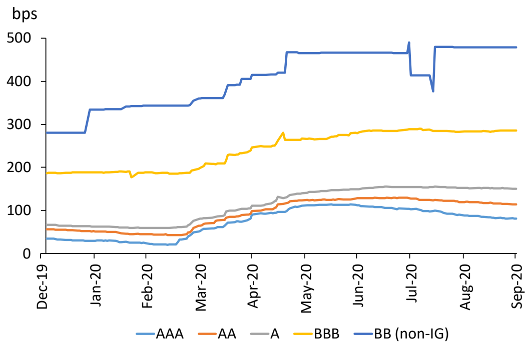
[26] See the press release The BOT revises measures to support mutual funds, 24 March 2020.
[27] As of 24 April 2020.
[28] Giving financial assistance to businesses via the BSF involves temporarily granting legal power to the BOT to manage Thai baht liquidity in the financial system, without depleting international reserves or borrowing from external organizations, in order to lend urgent assistance to those severely affected by COVID-19. So there is no effect on the level of public debt.

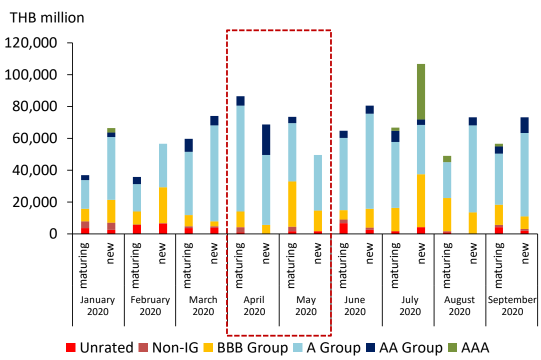
funds seeking assistance via the MFLF has declined continuously, with the amount of liquidity support through the MFLF plunging to 279 million baht as of 20 November 2020. Corporate bond market conditions have improved since June 2020, with the credit spread of corporate bonds rated 'A' or above declining significantly **(Chart 2.2)**, and those who are in need of funding can obtain funding normally via the corporate bond market as needed **(Chart 2.3)** without assistance from the BSF.

Chart 2.2 Difference between corporate bond yields and government bond yields (with tenor no longer than 3 years)



Sources: Thai Bond Market Association and Bank of Thailand's calculations.

Chart 2.3 Outstanding of maturing corporate bonds compared to monthly new bond issuances (January-September 2020)



Source: Thai Bond Market Association.

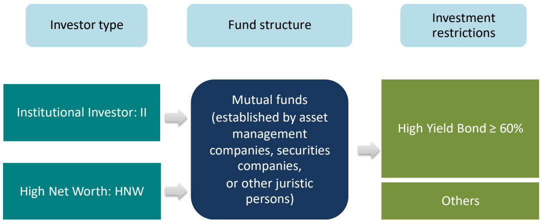
2.3.2 <u>During the re-opening phase:</u> **The measures were revised to be more flexible and better aligned with market conditions.** The revisions took place after the financial markets showed signs of stabilization and resumed their normal functioning. Such revisions include:

(1) Cancellation of special interest rate for financial institutions who lend liquidity support to MMF and daily FI funds under the MFLF to let asset management companies gradually return to their normal operations.

(2) Measures to support establishment of mutual funds which invest mainly in corporate bonds with rating below investment grade (High Yield Bond Fund: HYB Fund) to improve market liquidity and stabilize the corporate bond market, encourage retail investors to invest in HYB via professional asset management companies, and support firms which rely on high-yield bond issuance for funding. In fact, credit spreads of these high-yield bonds have not decreased despite the improving COVID-19 situations **(Chart 2.2)**. The value of HYB maturing in 2021 amounts to 79,380 million baht, of which 50 percent were issued by real estate developers affected by COVID-19 pandemic. The SEC issued guidelines on the establishment of HYB funds in the format of mutual funds **(see the summary of the guidelines in Chart 2.4)**[29] on 1 August 2020, and is in the process of reviewing regulations on establishment of trusts investing in HYB.

[29] Limited to only institutional investors and high net-worth investors. Also, premature investment-unit redemption is also prohibited. Moreover, HYB Fund must invest in high-yield bonds of issuers with bond outstanding as of the effective date and align with all the criteria at least 60 percent of net asset value within six months from the opening date. The fund must also diversify its investment properly and disclose sufficient information to investors.

Chart 2.4 Guidelines on establishing High-Yield Bond Fund



Source: Office of the Securities and Exchange Commission.

2.4 Measures to urge financial institutions to maintain buffer

The financial institutions system plays an instrumental role in channeling government's financial measures to households and businesses affected by COVID-19. For this reason, the authorities eased financial institutions' regulatory burdens and expenses so that they could support their borrowers fully. The authorities also introduced prudential measures to urge financial institutions to maintain sufficient capital buffers to weather risks associated with the highly uncertain COVID-19 situations and support economic recovery going forward. Key measures are as follows:

(1) Measures to alleviate regulatory burden and expense of financial institutions until end-2021, so that they could support their borrowers fully. The measures include: (i) allowing financial institutions to immediately classify the status of borrowers who have done pre-emptive debt restructuring as "performing"[30], with an aim to reduce these institutions' loan loss provisioning burden and incentivize them to restructure debt proactively; (ii) relaxation of liquidity regulations, both on the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR)[31], such that financial institutions can maintain their liquidity ratios below the regulatory level of 100 percent, in order to relieve financial institutions' burden during the times they need to support borrowers; and (iii) reduction of financial institutions' contribution to FIDF (FIDF fee) from 0.46 to 0.23 percent annually to reduce financial institutions' costs of lending to borrowers and promote a greater pass-through of reduction in policy rate.

(2) Measures to urge the financial institutions system to maintain adequate capital buffer to withstand risks emanating from the uncertain COVID-19 situation and sustain the flow of credit to support economic recovery going forward. (i) Financial institutions were asked to work on capital management plan and stress testing during 2020-2022, of which the results have suggested that financial institutions can endure the adverse scenario from the COVID-19 outbreak. Also, (ii) additional preventive measures were put in place to prepare for future economic outlook uncertainty. For instances, dividend payout of financial institutions based on performance in year 2020 cannot exceed the preceding year's level or 50 percent of year 2020 net profit. Moreover, share buybacks or premature repurchase of debentures countable toward Tier 1 or Tier 2 regulatory capital are prohibited. The BOT has also relaxed the eligibility criteria for additional tier 1 and tier 2 regulatory capital to be on par with the international standards. The objective is to build investor confidence about their returns, allowing the financial institutions to obtain funding easier.

[30] Previously, borrowers must be able to meet the new debt payment obligation for at least 3 consecutive months before getting classified as performing.

[31] Guidelines for commercial banks to provide support measures to debtors affected by the COVID-19 outbreak (Thai version), 7 April 2020.

2.5 Policy implementation guidelines going forward

Looking ahead, once the COVID-19 situation is under control, financial and fiscal measures are still warranted to promote economic recovery and restructuring. However, in implementing and maintaining these policies (e.g. liquidity support measures for businesses, monetary policy easing, and measures to relieve regulatory burden and expense of financial institutions), **policymakers also need to consider the appropriate circumstances and timing for a termination or gradual withdrawal of these policies.** This is because maintaining accommodative policies or support measures for too long could lead to a build-up of risks in the economic and financial system. This could arise, for example, from investors and related parties' mispricing of risks due to their inability to assess risks properly, and also from government's increase fiscal burden that could add to fiscal sustainability risk. On the other hand, withdrawing support measures prematurely could derail the momentum of economic recovery.

Additionally, it is also crucial to prepare measures for the scenario that the liquidity problem of households and businesses translates into solvency issues or non-performing loans in the financial institutions system. These measures include, for instance, mechanisms to facilitate business and financial restructuring, mechanisms to facilitate the smooth exit of troubled businesses that cannot adapt their business models, and efficient mechanisms to manage non-performing loans (NPL) or non-performing assets (NPA) of financial institutions. **Moreover, measures to weather unexpected shocks or worse-than-expected situations also need to be prepared.** These include, for example, the readiness to implement measures to stabilize financial markets or provide liquidity support for businesses and households in a timely and adequate manner should there be a second wave of COVID-19 outbreak or a significant delay in vaccine distribution.

Summary of support measures to mitigate the impact of COVID-19 pandemic

The lockdown phase (26 March 2020) → **The re-opening phase (3 May 2020)**

Support measures for businesses

Support measures for debtors affected by COVID-19

<u>**Guidelines for supporting borrowers impacted by events affecting the Thai economy:**</u> (28 February 2020)
Urging financial institutions to help borrowers by means of credit provision and pre-emptive debt restructuring, effective until 31 December 2021.

Lockdown phase:

<u>**Broad-based debt payment holiday schemes for SME borrowers:**</u> (22 April-22 October 2020)
Applicable for SMEs holding credit line with each financial institution less than 100 million baht and were still not classified as NPL. Loans under this scheme will not be considered NPL, and participating borrowers will not lose their credit records.

Re-opening phase:

<u>**Proactive and targeted support measures for SME borrowers in accordance with each borrower's needs:**</u> (16 October 2020) Introduced specifically for borrowers who still could not repay debt after the debt payment holiday ended, aiming to substitute the previous broad-based support measures. The measures also intend to provide incentives for financial institutions to expedite debt restructuring in corresponse to debt serviceability of borrowers, by enabling financial institutions to freeze loan classification status (asset classification standstill) for borrowers who are in the process of debt restructuring negotiation until the end of 2020.

<u>**DR BIZ project:**</u> (21 August 2020) to facilitate multi-creditor debt restructuring process.

Liquidity support measures

Lockdown phase:

<u>**BOT soft loan schemes:**</u> Total size of 500,000 million baht.
<u>**GSB soft loan scheme:**</u> Total size of 150,000 million baht.
<u>**TCG's credit guarantee schemes under PGS 8:**</u> Total size of 150,000 million baht, comprising of sub-programs such as:
(1) TCG's SME Tourism Rehabilitation schemes (total size of 3,700 million baht).
(2) TCG's SME New Life schemes (total size of 10,000 million baht).

Re-opening phase:

<u>**Revision of liquidity support measures to be more effective and targeted:**</u>
<u>**BOT soft loan:**</u> Extending the application period, modifying eligibility criteria to cover mai-listed firms, additional TCG credit guarantee from year 3 onwards under the <u>**Soft Loan Plus project**</u> (total size of 57,000 million baht).
<u>**GSB soft loan:**</u> Targeting SMEs in business sectors which take longer-than-expected time to recover, such as tourism-related businesses, under the existing budget of GSB soft loan schemes.

Demand stimulus measures

Re-opening phase:

<u>**Measures to stimulate domestic demand to boost businesses' income:**</u>
(i) Rao Tiew Duay Gun (We Travel Together) program: The government subsidizes accommodation, food, tourist attraction entry fees, and air-travel fares, in order to stimulate domestic spending through tourism (1 July 2020-30 April 2021).
(ii) Shop Dee Mee Kuen (Shop and Pay Back) program: Tax rebate scheme for tax year 2020 when purchasing goods and services not exceeding 30,000 baht per person (23 October-31 December 2020).

Support measures for households

Measures to support retail borrowers and expedite debt restructuring

Lockdown phase:

<u>**Phase-1 additional support measures for borrowers during COVID-19:**</u> (26 March 2020)
Introducing broad-based minimum assistance to ease debt repayment burden for retail borrrowers, such as reduction of minimum payment rate or conversion to term loan for credit card and personal loans.

Re-opening phase:

<u>**Phase-2 additional support measures for borrowers during COVID-19:**</u> (19 June 2020)
The aims are to (1) mitigate debt service burden of retail borrowers who were severely affected by the pandemic or bear high debt burdens; and (2) provide liquidity to viable borrowers. Examples of measures are extending coverage and duration of support measures for borrowers still being affected by COVID-19 and offereing a wide range of minimum debt relief measures for borrowers to choose, as well as increasing credit line ceiling for credit card and personal loans for borrowers having good credit record.

<u>**Debt consolidation schemes to support borrowers having multiple loans within the same financial institution:**</u>
Borrowers have an option to restructure their debts by consolidating their consumer loans with their existing mortgages to reduce overall interest expenses.

<u>**Revision of measures for borrowers with credit card and personal loans under the "Debt Clinic" program:**</u>
By (1) extending the measures until the end of June 2021; (2) deferring installment payment for borrowers who are incapable of paying debt; and (3) reducing interest rate for borrowers who could resume paying debt normally.

Measures to relieve and alleviate cost-of-living burden

Lockdown phase:

<u>**Cash transfer under "Rao Mai Ting Gun" campaign:**</u>
Paying cash of 5,000 baht per month to freelance workers outside the Social Security System for three months (April-June 2020).
<u>**Cash transfer for workers in the Social Security System:**</u> For instance, workers who have not completed their 6-month contribution payment and workers who have started working for less than 26 days will receive 5,000 baht monthly for three months (June-August 2020).

Re-opening phase:

<u>**Fiscal measures to support living expense for low-income households and sustain purchasing power in the real economy:**</u>
(i) **Measures to boost purchasing power of state welfare cardholders:** The government subsidizes expenses on necessity goods by paying out 500 baht per month per person (October 2020-March 2021).
(ii) **"Khon La Krueng" campaign:** The government subsidizes 50 percent of expenses spent on food, beverage, and other consumption goods with a limit of 150 baht per person per day or 3,500 baht per person throughout the campaign period (23 October 2020-31 March 2021).

<u>**Measures to alleviate insurance expenses for retail policyholders**</u>:
For instance, by extending terms for premium payments, reducing premium rate, and increasing ceiling for policy loans.

Measures to stabilize financial markets

<u>**MFLF establishment:**</u> (24 March 2020) To lend support to mutual funds facing liquidity shortage. The BOT will provide liquidity via special-rate repo transactions with financial institutions which assist MMF and Daily FI funds. Note that the BOT has canceled the special rate offer after the financial markets became more stabilized.

<u>**BSF establishment:**</u> Acting as a backstop by purchasing corporate bonds issued by firms seeking assistance with credit rating of investment grade and having maturing corporate bonds needed to be rollover during 2020-2021 (total size of 400,000 million baht).

Lockdown phase:

<u>**Temporary measures to help build liquidity position for fixed-income mutual funds:**</u>
(i) Increase the amount in which mutual funds can borrow or make repo transactions to be less than 30 percent of NAV from initially 10 precent of NAV.
(ii) Increase the single entity limit for term funds to purchase securities from Daily FI funds.

Re-opening phase:

<u>**Measures to facilitate establishment of High Yield Bond Fund (HYB Fund):**</u>
To increase liquidity, stabilize the corporate bond market, encourage retail investors to invest in HYB via professional asset management companies, and support fund raising of businesses reliant on HYB issuance.

Measures to urge financial institutions to maintain buffers

<u>**Relaxation of prudential regulations for financial institutions:**</u> To relieve their regulatory burden and expenses which, in turn, would leave room for financial institutions to assist borrowers. For examples: (i) allowing financial institutions to classify borrowers who have restructured debt pre-emptively as performing immediately; (ii) relaxing LCR and NSFR regulatory requirement, enabling the liquidity ratios to go below 100 percent; and (iii) decreasing financial institutions' contribution to FIDF (FIDF fee) from 0.46 to 0.23 percent for two years to reduce their costs of lending.

Re-opening phase:

<u>**Measures to sustain capital positions of financial institutions:**</u>
(i) Commercial banks were asked to prepare capital management plan and assess their financial positions and performances under stress scenarios (stress test analysis) during 2020-2022.
(ii) Financial institutions are prohibited to pay dividend more than the dividend payout amount of year 2019 or 50 percent of year 2020 net profit. Premature repurchase of stocks and debentures countable as tier 1 or 2 regulatory capital are also forbidden.
(iii) The BOT has eased the eligibity criteria for banks' additional tier 1 and tier 2 regulatory capital to be on par with the international standards.

Note: Measures in dotted boxes have expired, while those in boxes with solid border are still in effect.
Sources: Bank of Thailand, Office of the Securities and Exchange Commission, and Office of Insurance Commission.

Chapter 3: Risks to the Thai financial system going forward and policy guidelines

Looking ahead, the Thai financial system will have to face challenges due to the post-COVID-19 economic recovery, which is likely be gradual and uncertain. One key vulnerability will be the debt serviceability problem of households and businesses, especially SMEs, which could spread risks to other sectors within the financial system through the deterioration of financial institutions' credit quality and corporate bonds' rollover risks. These risk factors must be managed by targeted and timely measures to prevent the derailment of economic momentum and occurrence of economic scars, which could dampen future economic growth. In the adverse scenario, longer monetary easing and larger-scale fiscal stimulus package might be warranted, despite the likelihood of severe search-for-yield behavior and potential surge in fiscal debt burden, as supporting the continuity of economic recovery will remain a higher priority. Furthermore, the Thai financial system will need to face risks from the long-standing issue of household debt, particularly for low-income households which have been severely hit by income shocks and become much more financially fragile due to the COVID-19 crisis. Another important key risk could arise from the post-COVID-19 structural changes of business sectors. Large corporates, which tend to rebound faster than SMEs, will likely play an increasing role in the economic and financial system, increasing their likelihood to exert financial spillover to other sectors. Lastly, risks from commercial real estate sector should also be noted, given the rise in oversupply due to changing consumer behavior. To manage financial stability risks in the periods ahead, close and timely collaboration among supervisory authorities will be essential given the increased interconnectedness within the financial system.

Looking ahead, the Thai economy will likely recover in tandem with global economic recovery. Another key supporting factor is the coordinated policy responses among fiscal policies, financial policies, financial institutions policies, and financial market measures as discussed in Chapter 2.

The discovery of COVID-19 vaccines in late 2020 helps reduce the uncertainty of economic outlook, thanks to lower likelihood of another round of lockdown measures in major cities, which led to a massive contraction of global GDP in 2020Q2. The discovery also serves as a positive factor supporting consumption and investment decision of households and businesses in the periods ahead.

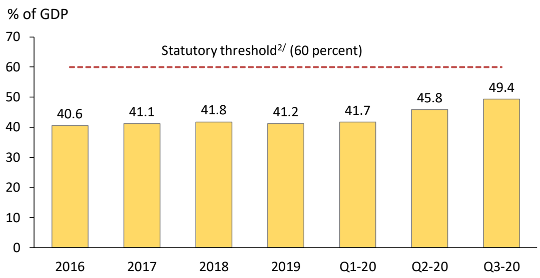
Nevertheless, the Thai financial system will likely face challenges from the prolonged economic recovery, which could take at least two years from the trough in 2020Q2 before returning to its pre-COVID-19 level. Part of this is attributable to the number of foreign tourists, which is not expected to increase significantly until COVID-19 vaccines are distributed worldwide possibly in 2022. On the domestic front, **recovery in economic activities also remains uncertain** due to risks of new waves of COVID-19 outbreak and the continuity of fiscal stimulus measures. **One key vulnerability is likely to be the debt serviceability problem of households and SMEs, which could spread risks to other sectors in the financial system**, for example, via the deterioration of financial institutions' credit quality and corporate bonds' increased rollover risks. **These key risks need to be managed with timely and targeted fiscal and financial measures.** Key measures include liquidity provision measures to businesses, debt restructuring for business and retail borrowers, fiscal stimulus to boost the economy, scaling up of support measures in worse-case scenarios, and prolonged monetary easing. **These measures will be vital in preventing economic scars that could dampen economic growth and pose risks to financial stability going forward.**

Meanwhile, the highest priority in the short term is to ensure the continuity of economic recovery. In this regard, longer monetary easing and larger-scale fiscal stimulus might be warranted, despite the risk of search-for-yield behavior **(Annex 3)** arising from lower-for-longer interest rates as well as the risk of long-term fiscal sustainability. In the periods ahead, both macro- and micro-prudential policies will need to be prepared in order to mitigate the risk from search-for-yield behavior.

Regarding the fiscal burden issue, it is fortunate that Thailand's public debt position remains strong, with low level of fiscal debt to GDP, thereby leaving space for large-scale fiscal stimulus measures to tackle, remedy, stimulate, and revive the economy from the COVID-19 crisis. So far, Thailand's public debt to GDP rose from 41.2 percent in 2019 to 49.4 percent in 2020Q3 **(Chart 3.1)**, with the projected trend approaching near the statutory threshold of 60 percent in the next two years. Indeed, even though large fiscal stimulus, coupled with lower government revenue due to economic slowdown, would likely result in higher fiscal debt burden and public debt level, additional government borrowing is still feasible if needed. This is because government's borrowing costs are likely to remain low and Thailand's public debt level is still expected to be lower than other countries **(Chart 3.2)**. Moreover, according to international organizations and credit rating agencies, fiscal sustainability also depends on other factors besides public debt level. These include, for example, the country's economic outlook, efficacy of fiscal spending to boost potential growth, and ability to reduce fiscal burden and maintain long-term fiscal sustainability. **Thus, if needed, the Thai government is still in a healthy position to implement more stimulus packages should economic recovery turn out to be more delayed than anticipated. This is viewed to be well-justified if the newly created public debt is used to support recovery and raise long-term growth potential, alongside with fiscal reform once economic recovery is fully entrenched.**

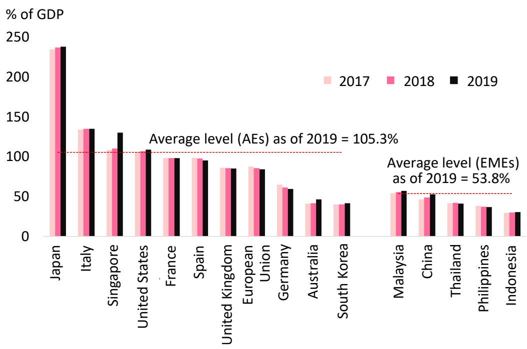
Besides risks from the uncertain economic outlook, Thailand's financial system will have to face risks from the prolonged household debt problem. Due to the COVID-19 crisis, low-income households have faced severe income shocks and become much more fragile financially **(see details in 3.1)**. Additional risks could emerge from post-COVID-19 structural changes in some business sectors. Indeed, large corporates tend to recover quicker than SMEs and will likely play a greater role in the economic and financial system, potentially exerting more risks to other sectors **(see details in 3.2)**. Risks from commercial properties should also be monitored, given the rise in oversupply due to changes in consumer behavior **(see details in 3.3)**.

Chart 3.1 Thailand's public debt to GDP[1/]



Note: [1/] Calculated from GDP using Chain Volume Measures; [2/] Set by the Public Debt Policy and Supervision Committee under the State Fiscal and Financial Discipline Act, B.E. 2561.
Source: Public Debt Management Office.

Chart 3.2 Cross-country comparison of public debt to GDP



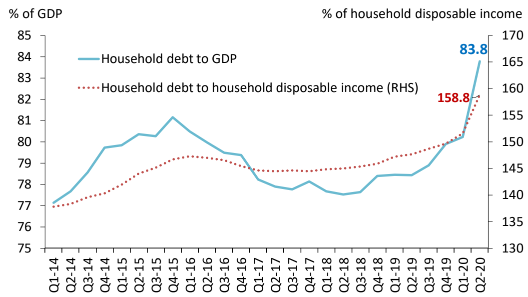
Source: IMF Fiscal Monitor (October 2019).

3.1 Elevated household debt burden and severe income shocks due to the COVID-19 pandemic have exacerbated the fragility of low-income households.

Thai households' high debt burden to income is rising further due to the COVID-19 pandemic, aggravating the long-standing household debt problem. Household debt to GDP and household debt to disposable income rose from 79.9 and 149.7 percent at end-2019 to 83.8 and 158.8 percent by the end of 2020Q2, respectively, reaching their highest levels in the past 18 years **(Chart 3.3)** and considered relatively high in the region **(Chart 3.4)**. The critical factors driving such increase in Thailand's household debt to GDP are the sharp drop in nominal GDP and household incomes, not to mention the surging loan demand of households to cover their cost of living while their incomes have not recovered to their pre-COVID-19 levels. **The groups of workers likely to be more vulnerable are those working in businesses severely hit by COVID-19, such as the retail trade and hotel sectors, most of which are low-income households with monthly income of less than 15,000 baht (Chart 3.5) and have high pre-existing debt burden.**

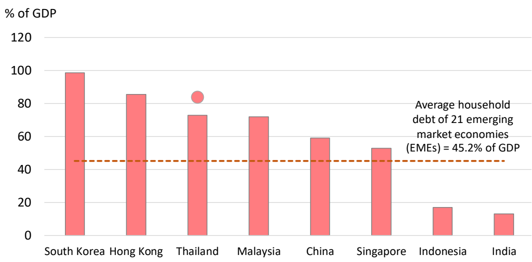
Amid the uncertain COVID-19 situations that will take time to recover, financial positions of households, notably those of low-income workers in businesses severely affected by COVID-19, are expected to become even more fragile. This will affect not only households' consumption and debt serviceability, but also their day-to-day living, which could lead to social problems in the future**. As a consequence, it is essential to closely monitor risks and vulnerabilities of these households, while also pushing forward concrete measures to address financial vulnerabilities of households in a holistic manner**, an important task that requires collaboration from all related parties. These measures include supporting or creating sustained labor income for households, reskilling or upskilling the workforce for the post-COVID-19 era, and tackling the entire household debt cycle. This starts from empowering households by promoting financial literacy and discipline—so that they could manage income and expenditure appropriately, avoid going into excessive debt, and develop saving habits to build cushion for future uncertainty—to assisting over-indebted borrowers. Furthermore, it is also important to urge financial service providers to exercise responsible lending practices by considering whether borrowers would have sufficient funds for living after paying debt (i.e. affordability risk). To illustrate, when granting loans, lenders should take into account borrowers' ability to service debt and sustain their livelihoods so that it would not lead to excessive debt creation. In addition, creditors should consider deleveraging or restructuring borrowers' debt to align with borrowers' repaying ability.

Chart 3.3 Thailand's household debt level



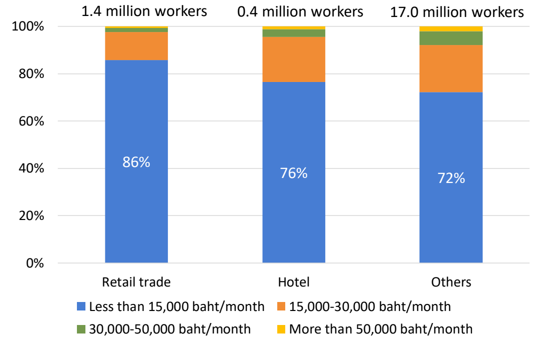
Note: Household debt refers to loans granted to households by financial institutions and household income refers to household disposable income.
Sources: Bank of Thailand and Office of the National Economic and Social Development Board.

Chart 3.4 Thailand's household debt compared to regional countries



Note: To ensure consistent data definitions and allow for comparison of household debt data across countries, data from the Bank of International Settlements (BIS) (as displayed by the bar chart) are used. Unlike BIS data, BOT's household debt data (as displayed by the circle) also includes loans from other financial corporations, such as non-banks. Thus, BOT's household debt figure is higher than that of the BIS.
Sources: Bank for International Settlements (BIS) and Bank of Thailand.

Chart 3.5 Proportion of workers in businesses severely affected by the COVID-19 pandemic, classified by income level



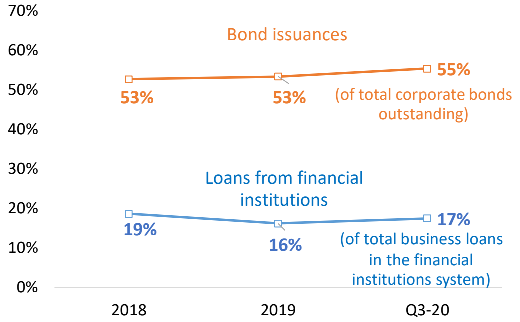
Sources: Labor Force Survey and Bank of Thailand's calculations.

3.2 Large conglomerates[32] will play a more significant role in the Thai economic and financial system, and could potentially generate greater spillover to other sectors.

Since the COVID-19 outbreak, recovery has been uneven across business sectors. Large conglomerates, which have better access to funding and diverse business lines, are more likely to recover faster than SMES. **Thus, large conglomerates will likely play an even more important role in the Thai economy in the future,** being both the vital nodes in supply chains and the major employers of the country. In addition, large conglomerates play a critical role in the financial system as major fundraisers in the corporate bond market and loan market. Their shares in the corporate bond market rose from 53 percent at end-2019 to 55 percent by the end of 2020Q3. Meanwhile, their loans outstanding accounted for a steady share of about 17 percent of the total loans outstanding **(Chart 3.6)**.

[32] Large conglomerates are defined as those with the top-20 highest total debt, as of June 2019, based on the following sources of funds: (1) loans from financial institutions; (2) bond issuances; and (3) external borrowing. The names of the firms in each category are based on data publicly available from the SET, in the news, and from the views of bank supervisors. Note that the resulting classification might differ from the one based on the single lending limit (SLL) guideline under the Financial Institutions Businesses Act B.E. 2551.

Chart 3.6 Large conglomerates' fundraising compared to the size of each funding source



Note: Business loans consist of loans to given to large corporates and SMEs.
Sources: Bank of Thailand, Thailand Securities Depository Co., Ltd., custodians, securities brokers, and Thai Bond Market Association.

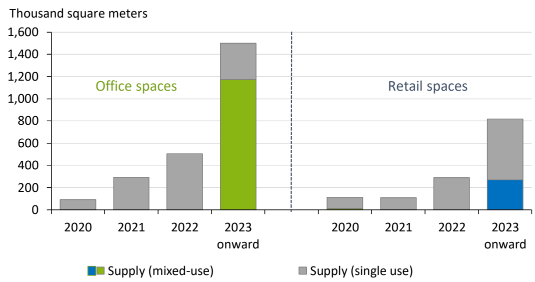
In the meantime, if one of these large conglomerates face a problem, such as liquidity shortage, credit rating downgrade, or bond default, it is probable that the magnitude and extent of risk spillover to other sectors could be severe and widespread. An example is the case of Thai Airways PLC, which was severely hit by the COVID-19 crisis and, in turn, faced credit rating downgrade and had to request for rehabilitation later on. This led to a sharp drop in prices of equity and bonds issued by the company, causing a widespread impact on the holders of these securities.

Looking ahead, there remains a need to continue monitoring the risks and the interlinkages among large conglomerates and the Thai economic and financial system. Close collaboration among related supervisory authorities is also needed to ring-fence the potential risk spillover from large conglomerates to other sectors given the increasingly interconnected economic and financial system.

3.3 Risks from commercial properties will likely arise given the rise in oversupply due to changing consumer behavior.

The supply of office and retail spaces is anticipated to increase from 2023 onwards (Chart 3.7), partly owing to a surge in mix-used projects[33]. Indeed, new supply of office and retail spaces is projected to rise more than 1.5 million and 800,000 square meters, respectively. **However, the slow economic recovery and changing consumer lifestyle after the COVID-19 crisis could affect demand for certain types of commercial properties.** For instance, the flexible work style in the form of "working from home" could dampen rental demand for office spaces. In addition, the slow economic recovery could affect revenues of those renting the retail spaces, while consumers' preference toward online shopping could also lead to a decrease in demand for retail spaces.

Chart 3.7 New office and retail spaces launched in Bangkok and its vicinity



Note:
1. Calculated from 10 large mixed-used projects with project value higher than 10 billion baht, using data as of the end of 2020Q2.
2. Supply of office and retail space is estimated by CBRE.
Sources: CBRE and Bank of Thailand's calculations.

Going forward, if supply, notably that of office spaces, continues to grow, real estate developers who could not adjust their business strategies to address the declining demand could see their number of unsold units rising,

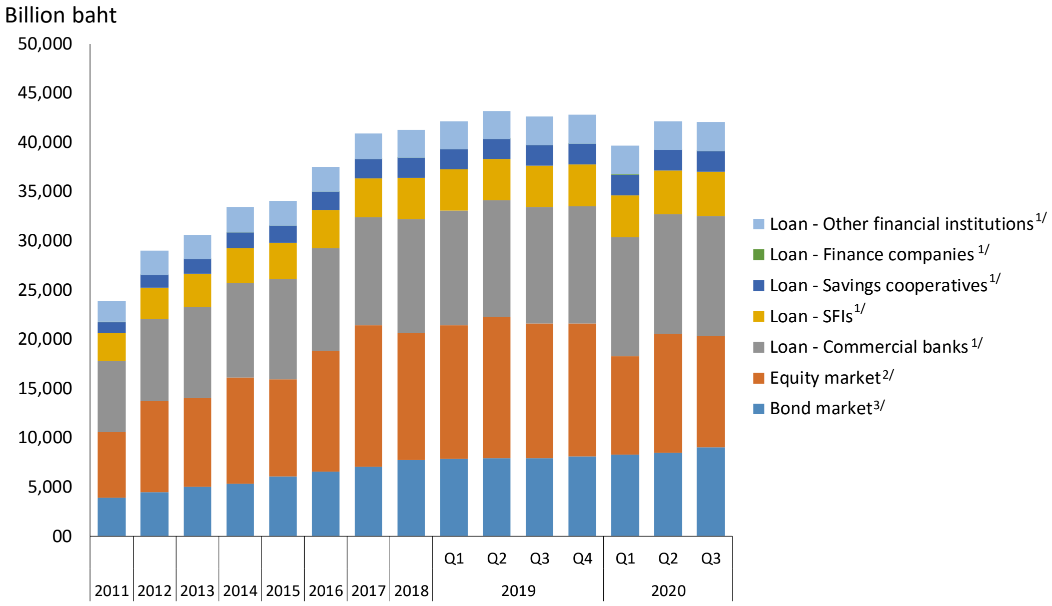
[33] Mixed-use projects are real estate projects that combine multiple uses of land or buildings, mostly involving a mix of residential and commercial real estates.

prompting them to cut rental prices aggressively to sell off their units. This could affect the performances and financial positions of commercial real estate developers. Note also that several large-scale commercial property projects are currently being developed by large conglomerates who raise a large sum of funds from both the corporate bond and credit markets. If in trouble, these conglomerates could potentially spread risks to other parts in the financial system. **In this regard, close oversight of the commercial property market and the risks of commercial real estate developers are needed.**

To summarize, safeguarding financial stability in the next couple of years will likely face challenges arising from the gradual and uncertain economic recovery. One key vulnerability will be debt serviceability of households and SMEs, which need to be tackled with targeted and timely measures to prevent disruptions in economic recovery and avoid economic scars that could weigh on long-term growth and generate spillover to the rest of the financial system. The recent panic redemption by mutual fund investors and the loss of investor confidence in the corporate bond market during the COVID-19 crisis have proven that, given the increased interconnectedness in the economic and financial system, risks emerging from one area could propagate to other parts of the system in a swift and serious manner. In this regard, safeguarding stability of the Thai financial system requires close and timely cooperation among regulatory authorities to set up risk detection mechanisms, risk alleviation measures, and other mechanisms that could mitigate widespread financial spillover. Currently, the Ministry of Finance and financial-sector regulatory agencies are in the process of establishing the Financial Stability Consultative Committee (FSCC) to be a platform for all regulatory agencies to collaboratively assess financial stability risks in a forward-looking manner and provide policy consultations on financial stability issues, so that each authority could take such guidance into account while issuing policies or measures to prevent or mitigate risks to financial stability.

1. Structure of the Thai financial system

1.1 Types of funding



1/ Loans granted to households, non-profit financial institutions, and other non-financial corporations.
2/ Market values of equities listed on SET and mai, excluding equities issued by financial corporations and non-residents.
3/ Par values of debt securities issued in Thailand, excluding securities issued by financial corporations and non-residents.

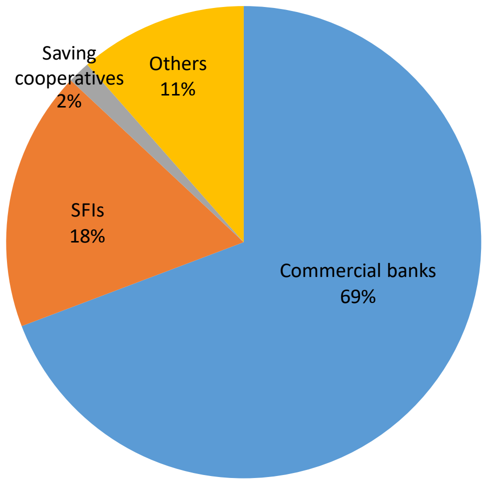
1.2 Financial institutions system: Number and asset size of major financial institutions

Types of financial institutions	2020Q3 P/	
	Number	**% of total assets of financial institutions**
Depository corporations		
Commercial banks	30	46.63
Specialized financial institutions (SFIs)	6	15.65
Savings cooperatives 1/	1,418	6.63
Finance and credit foncier companies	5	0.07
Money market funds (MMFs)	47	0.77
Other financial corporations		-
Mutual funds (excluding MMFs)	1,525	8.86
Insurance companies	80	9.77
Leasing companies	769	1.94
Credit card, personal loan and nano finance companies under regulation 2/3/	53	2.47
Provident funds	368	2.53
Government pension fund	1	2.15
Asset management companies	60	0.71
Securities companies	48	0.85
Agricultural cooperatives 4/	3,238	0.58
Pawnshops	696	0.21
Non-depository specialized financial institutions 5/	2	0.18

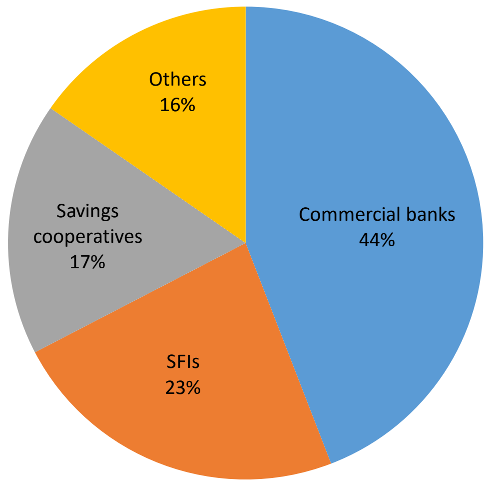
P/ Preliminary data.
1/ Savings cooperatives data do not include credit union cooperatives.
2/ Credit cards and personal loans under regulation include only financial institutions that operate with licenses issued by the Bank of Thailand and satisfy the definition of financial institutions according to the IMF Monetary and Financial Statistics Manual (2000).
3/ There were 36 nano-finance operators as of 2020Q3.
4/ Agricultural cooperatives data were as of end-2019.
5/ Secondary Mortgage Corporation (SMC) and Thai Credit Guarantee Corporation (TCG).

1.3 Loan: Corporate and consumer loans (as of 2020Q3)

Share of corporate loan providers

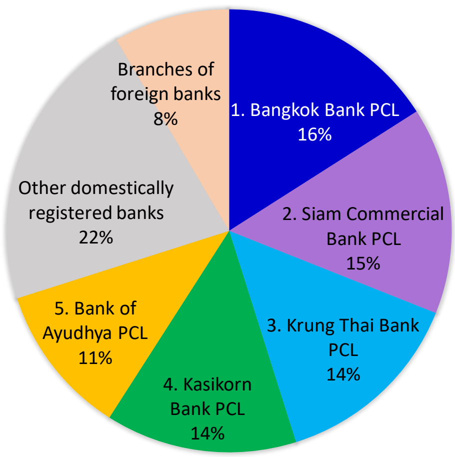


Share of consumer loan providers

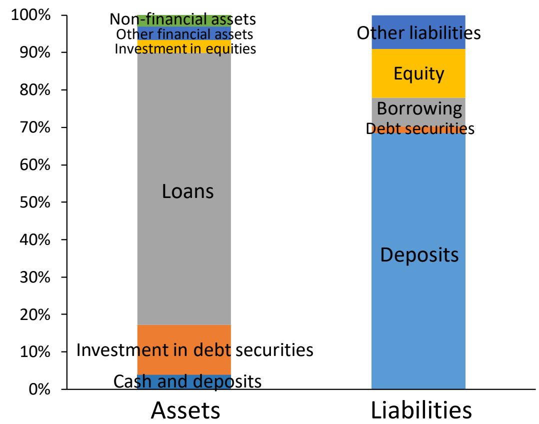


1.4 Structure of the commercial banking system (as of 2020Q3)

Share of commercial banks by asset size

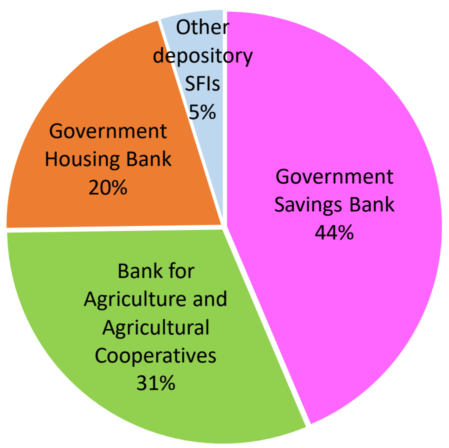


Asset and liability structure of commercial banking system

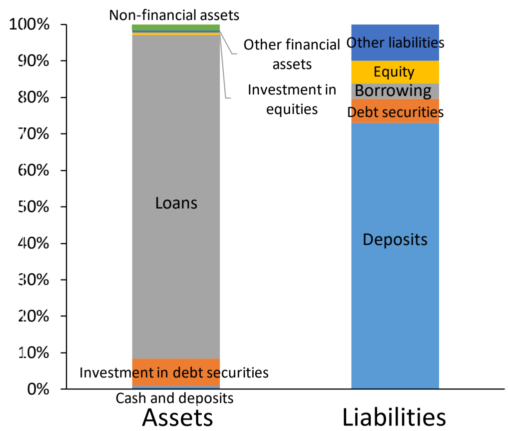


1.5 Structure of depositary specialized financial institutions (SFIs) (as of 2020Q3)

Share of depository SFIs by asset size



Asset and liability structure of depository SFIs



2. Financial condition and financial stability risk indicators

Indicators	2015	2016	2017	2018	2019	2020		
						Q1	Q2	Q3
Overall financial system								
Nominal GDP (million baht)[1/]	13,743,463	14,592,595	15,486,551	16,365,572	16,875,891	16,819,866	16,217,737	15,905,107
Funding structure								
Private sector loans to GDP (times)[2/]	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.4
Stock market capitalization to GDP (times)	0.7	0.8	0.9	0.8	0.8	0.6	0.7	0.7
Bond market capitalization to GDP (times)	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6
1. Financial institutions								
1.1 Commercial banks								
Total assets (billion baht)	17,315	17,722	18,387	18,951	20,095	21,438	21,508	21,343
% YoY	3.4	2.4	3.8	3.1	6.0	11.0	10.8	8.1
Deposits (excluding interbank)	12,027	12,346	12,967	13,472	14,031	14,874	15,106	15,089
% YoY	2.9	2.7	5.0	3.9	4.1	9.0	10.9	9.2
Loans (excluding interbank)	11,729	11,959	12,488	13,239	13,505	13,765	14,024	14,036
% YoY	4.3	2.0	4.4	6.0	2.0	4.1	5.0	4.6
Corporate loans	8,022	8,070	8,362	8,727	8,653	8,923	9,143	9,073
% YoY	3.2	0.6	3.6	4.4	-0.8	3.3	5.1	4.5
- Credit line up to 500 million baht (excl. financial companies)[3/]	5.7	1.4	2.8	4.0	-5.4	-4.7	-3.4	-3.1
- Credit line more than 500 million baht (excl. financial companies)[3/]	0.1	-0.4	4.7	4.8	0.9	8.0	13.0	10.8
Consumer loans	3,707	3,889	4,125	4,512	4,852	4,842	4,881	4,963
% YoY	6.9	4.9	6.1	9.4	7.5	5.6	4.8	4.8
- Housing loans	9.3	6.9	5.5	7.8	5.4	3.4	4.4	5.4
- Auto loans	0.5	1.4	8.4	12.6	7.6	6.1	4.1	3.5
- Credit card and personal loans under regulation	2.8	3.0	1.7	7.4	12.4	6.5	1.1	-1.5
- Other consumer loans	12.2	5.0	7.3	10.7	10.9	10.5	8.8	7.9
Liquidity								
Loans to deposits (%)	97.5	96.9	96.3	98.3	96.3	92.5	92.9	93.0
Loans to deposits and B/E (%)	97.0	96.3	96.1	98.2	96.2	92.5	92.8	93.0
Asset quality								
NPL ratio (%)[4/]	2.55	2.83	2.91	2.94	2.98	3.04	3.09	3.14
SM ratio (%)[4/]	2.38	2.63	2.55	2.42	2.79	7.69	7.49	7.03
Provisions for loans/NPL (%)[4/]	131.0	136.5	139.5	150.0	150.0	143.6	143.9	149.7
Profitability								
Operating profit (billion baht)	370	383	394	398	500	130	111	90
Net profit (billion baht)	192	199	187	207	271	70	32	28
Return on assets (ROA)	1.1	1.1	1.0	1.1	1.4	1.4	0.6	0.5
Net interest margin (%)	2.7	2.8	2.8	2.7	2.7	2.9	2.6	2.6
Capital adequacy								
Regulatory capital to risk-weighted assets (%)	17.4	18.0	18.2	18.3	19.6	18.7	19.2	19.8
Tier 1 ratio (%)	14.6	15.1	15.6	15.8	16.7	15.8	16.4	17.0
Common equity tier 1 (%)	14.5	15.1	15.6	15.8	16.6	15.8	16.3	16.8
Interest rates[5/]								
Weighted average minimum loan rate (MLR)	4.6	4.3	4.3	4.1	3.9	3.6	3.2	3.1
12-month fixed deposit rate	1.4	1.4	1.4	1.4	1.3	0.8	0.5	0.5

[1/] Nominal GDP (or GDP at current prices) data have been revised from 2012 onward. Quarterly data presented are calculated from a moving average of the previous 4 quarters.

[2/] Loans to the private sector include loans granted to households, non-profit financial institutions, and non-financial corporations.

[3/] Corporates' credit lines with each individual commercial bank.

[4/] Since 2020Q1, NPL means Stage 3 loans and SM means Stage 2 loans with a significant increase in credit risk, which has a greater coverage compared to SM classifications prior to TFRS9.

[5/] Interest rates for retail customers, based on rates from 5 commercial banks (Bangkok Bank, Krung Thai Bank, Siam Commercial Bank, Kasikorn Bank, and Bank of Ayudhya).

Financial condition and financial stability risk indicators (continued)

Indicators	2015	2016	2017	2018	2019	2020		
						Q1	Q2	Q3
1.2 Specialized financial institutions (SFIs)[6/]								
Total assets (billion baht)	5,006	5,370	5,719	6,010	6,272	6,406	6,624	6,647
% YoY	7.0	7.3	6.5	5.1	4.4	5.4	9.2	8.1
Deposits (excluding interbank)	4,181	4,421	4,663	4,924	5,072	5,176	5,340	5,398
% YoY	8.1	5.7	5.5	5.6	3.0	4.0	7.8	8.3
Loans (excluding interbank)	3,979	4,062	4,407	4,742	4,950	4,924	5,065	5,090
% YoY	7.1	2.1	8.5	7.6	4.4	1.7	3.6	3.6
Asset quality								
NPL ratio (%)	4.9	5.0	4.2	4.0	4.4	4.6	4.4	4.4
SM ratio (%)	2.9	3.3	4.5	4.5	4.3	4.3	4.2	4.4
Profitability								
Operating profit (billion baht)	91	101	107	121	108	30	27	30
Net profit (billion baht)	38	47	53	55	43	5	10	16
Return on assets (ROA)	0.8	0.9	1.0	1.0	0.7	0.3	0.6	1.0
Net interest margin (%)	2.9	2.9	3.0	2.8	2.7	2.6	2.3	2.5
Capital adequacy								
Regulatory capital to risk-weighted assets (%)	11.3	12.2	12.3	13.7	13.9	13.8	13.7	14.1
2. Financial markets								
Government bond market								
Bond spread (10 years - 2 years (%)[7/]	0.9	1.0	1.1	0.7	0.3	0.6	0.8	0.8
Non-resident holdings (%)[8/]	7.8	8.1	10.6	11.1	9.8	8.9	8.5	8.4
Stock markets (SET and mai)								
SET Index (end of period)	1,288.0	1,542.9	1,753.7	1,563.9	1,579.8	1,125.9	1,339.0	1,237.0
SET actual volatility (%)	13.9	14.2	6.5	12.1	9.5	47.0	25.2	13.6
SET price to earnings ratio (times)	22.6	18.6	19.1	14.8	19.4	13.0	18.9	21.2
mai Index (End of period)	522.6	616.3	540.4	356.4	309.6	216.1	297.9	315.9
mai actual volatility (%)	21.2	18.9	10.8	11.7	10.5	33.7	16.6	14.0
mai price to earnings ratio (times)	52.9	63.3	106.1	44.3	23.1	14.6	22.1	34.0
Foreign exchange market								
Exchange rates (end of period) (USD/THB)	36.0	35.8	32.6	32.6	30.0	32.8	30.9	31.7
Actual volatility (% annualized)	5.1	4.4	3.3	4.6	4.1	5.5	5.4	5.3
Nominal effective exchange rate (NEER) (year 2012 = 100)	108.5	106.1	110.6	115.6	123.2	123.3	122.6	122.0
Real effective exchange rate (REER) (year 2012 = 100)	104.4	100.6	103.7	107.3	112.8	111.1	108.7	109.9
3. External sector								
Current account to GDP[9/]	6.9	10.5	9.6	5.6	7.0	6.9	1.0	5.1
External debt GDP[10/]	32.0	32.6	36.8	35.5	34.2	33.7	33.8	
Foreign currency external debt to GDP	23.6	23.1	24.8	23.2	21.8	21.6	22.5	
External debt (million USD)	131,078	132,834	155,949	163,103	171,885	165,295	172,066	
Short-term (%)	40.1	41.0	44.1	38.9	34.8	35.9	36.0	
Long-term (%)	59.9	59.0	55.9	61.1	65.2	64.1	64.0	
International reserves								
Net reserves (million USD)	168,164	197,613	239,307	239,371	259,047	260,914	266,090	275,203
Gross reserves to short-term external debt (times)	3.0	3.2	2.9	3.2	3.8	3.8	3.9	4.1

[6/] Specialized financial institutions include Government Savings Bank, Bank for Agriculture and Agricultural Cooperatives, Government Housing Bank, Islamic Bank of Thailand, SME Bank, Export-Import Bank of Thailand, Thai Credit Guarantee Corporation, and Secondary Mortgage Corporation.

[7/] Calculated using interpolated yield curves from ThaiBMA.

[8/] Non-resident holdings data include government bonds, Bank of Thailand bonds, and state-owned enterprises' bonds for which the Bank of Thailand serves as registrar.

[9/] Current account to GDP is calculated is calculated using quarterly nominal GDP of the same period.

[10/] External debt to GDP is calculated as the ratio of external debt to three-year average of nominal GDP.

Financial condition and financial stability risk indicators (continued)

Indicators	2015	2016	2017	2018	2019	2020		
						Q1	Q2	Q3
Capital flows								
Net capital flow (million USD)	-16,799	-20,195	-10,507	-13,204	-15,656	-8,375	10,079	
Direct investment (flow)								
Thailand direct investment abroad	-4,991	-13,393	-14,217	-17,368	-10,144	-5,822	-4,139	
Foreign direct investment in Thailand	8,928	3,486	8,285	13,186	4,817	2,789	-598	
Portfolio investment (flow)								
Thailand portfolio investment abroad	-3,817	-4,279	-11,552	-1,952	-7,698	78	2,815	
Foreign portfolio investment in Thailand	-12,691	1,481	9,401	-3,911	-946	-7,281	-1,518	
4. Households								
Household debt to GDP (%)	81.2	79.4	78.1	78.4	79.9	80.2	83.8	86.6
%YoY	5.7	3.9	4.5	6.0	5.1	4.1	3.8	3.9
Financial assets to debt (times)	2.5	2.6	2.9	2.7	2.9	2.7	2.9	
Proportion of consumer loans more than 1 month overdue of commercial banks (NPL and SM ratio) (%) :								
- Housing loans	4.1	4.7	5.1	5.0	5.6	10.7	10.1	9.5
- Auto loans	10.1	9.2	8.8	8.8	9.3	11.8	11.5	10.8
- Credit card and personal loans under regulation	7.1	6.5	5.2	4.7	5.1	9.5	7.7	8.3
- Other consumer loans	4.2	4.7	4.6	4.6	4.3	9.7	9.4	9.1
5. Corporates								
Corporate debt to GDP	78.3	77.6	75.5	76.0	75.1	77.6	80.9	
Proportion of corporate loans more than 1 month overdue of commercial banks (NPL and SM ratio) (%)4/ :								
- Credit line up to 500 million baht3/	5.7	6.8	7.4	7.3	10.1	21.1	20.4	20.3
- Credit line more than 500 million baht3/	3.5	3.8	3.5	3.2	4.8	9.4	9.7	8.8
Performance of non-financial listed companies								
Net profit margin (%)	7.4	8.2	8.0	7.5	6.8	6.3	4.6	7.5
Debt to equity ratio	0.7	0.7	0.7	0.7	0.7	0.9	0.8	0.8
Interest coverage ratio (times)	5.6	6.4	6.4	6.2	4.4	3.8	2.7	4.3
Current ratio (times)	1.6	1.6	1.7	1.6	1.6	1.5	1.5	1.5
6. Real estate sector								
Number of mortgages approved by commercial banks (Bangkok and vicinity)								
Single- and semi-detatched houses (unit)	14,498	14,791	14,546	15,912	16,167	3,553	4,408	4,790
Townhouses and commercial buildings (unit)	21,236	22,141	21,471	25,042	24,763	5,314	5,559	6,128
Condominiums (unit)	28,897	30,371	29,146	32,407	29,946	6,015	7,564	8,059
Number of new housing units for sale (Bangkok and vicinity)								
Single- and semi-detatched houses (unit)	17,637	19,433	14,280	18,311	19,683	3,659	3,439	5,364
Townhouses and commercial buildings (unit)	27,518	32,792	36,571	32,349	32,925	8,100	6,038	8,926
Condominiums (unit)	62,833	58,350	63,626	74,317	66,367	6,798	1,994	7,968
House price index (Jan 2009 = 100)								
Single-detatched houses (including land)	128.5	130.4	131.0	138.6	144.0	149.1	151.3	150.5
Townhouses (including land)	134.3	137.1	141.2	149.5	156.4	164.0	164.7	162.4
Condominiums	155.4	165.2	169.6	180.9	182.3	190.0	190.2	179.2
Land	157.2	170.0	168.6	173.6	172.8	181.6	185.1	188.5
7. Fiscal sector								
Public debt to GDP (%)	43.7	40.7	41.2	41.9	41.2	41.7	45.8	49.3

3. Search-for-yield behavior by households, mutual funds, insurance companies, and savings cooperatives

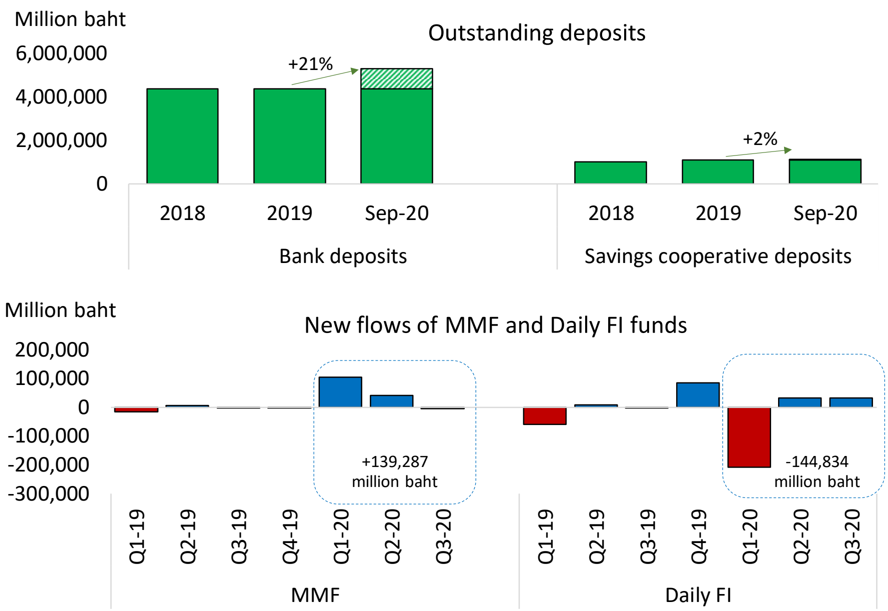
The COVID-19 crisis has caused the issue of search-for-yield behavior become less of financial stability concern in the near term (except for the search-for-yield behavior by savings cooperatives). Looking ahead, this behavior is likely to resurface once the economy has recovered but interest rates remain low.

3.1 Households

The search-for-yield behavior by the household sector had somewhat declined during the period of high financial market volatility and uncertainty as a result of the COVID-19 crisis. Instead, households shifted their investments to safer assets. During the first nine months of 2020, the value of bank deposits had increased by 21 percent from the end of 2019. At the same time, MMFs saw a net inflow of 139,287 million baht while daily FI funds faced a net outflow of 144,834 million baht. Although investments in daily FI funds have begun to increase during Q2 and Q3 of 2020, total assets under management have yet to return to the pre-COVID-19 level **(Chart 1)**.

Furthermore, holdings of high-yield (below investment grade) corporate bonds as a proportion of all debt securities declined from 9.8 percent at the end of 2019 to 8.6 percent at the end of Q3 of 2020. Growth of deposits at savings cooperatives also slowed down to merely 2 percent from the outstanding amount at the end of 2019. Despite this trend, once the crisis has resolved and financial markets return to normal conditions, market confidence may be restored along with a rise in search for yield behavior.

Chart 1 Households' investment assets

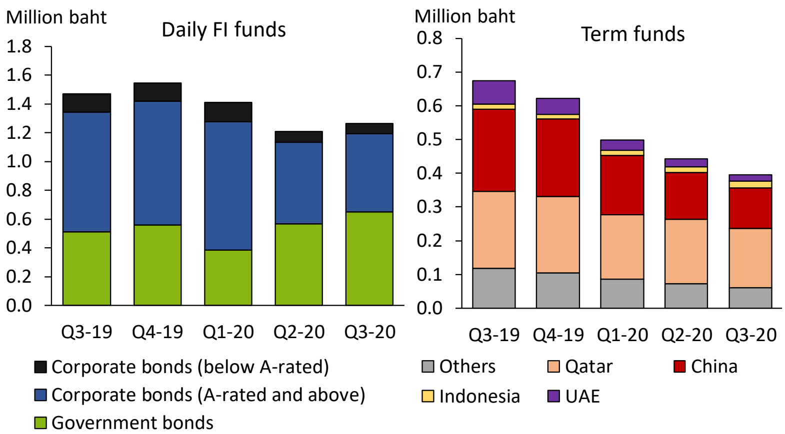


Sources: Bank of Thailand and Office of the Securities and Exchange Commission.

3.2 Mutual funds

MMF and daily FI funds, which make up more than 36 percent of the total market value of mutual funds, **reduced their search-for-yield behavior** after the COVID-19 crisis caused mass redemptions of fund units. This was reflected by a lower level of investment concentration and increased investment in highly liquid assets. Meanwhile, term funds (a type of fixed income fund) had reduced their investment concentration in Qatar, China, and Indonesia from 93 percent of all foreign positions in 2019 to 87 percent at the end of September 2020, but increased their positions in Qatar, which had a relatively high credit rating of 'AA-', from 39 percent to 51 percent **(Chart 2)**. Even though risk-taking behavior seems to have waned in recent periods, the behavior of fund managers must still be continuously monitored, especially with respect to changing investment strategies or offering new products to attract investors under the ongoing low interest rate environment. Such activities may lead to higher search for yield behavior and hence an accumulation of risks in the financial system.

Chart 2 Investments of selected types of mutual funds



Source: Office of the Securities and Exchange Commission.

3.3 Insurance companies

The insurance industry continued to increase their share of investment in corporate bonds, which are however still limited to investment grade bonds (Chart 3). Recently, the OIC has amended regulation on investment in foreign assets by extending the limit from 15 percent to 30 percent of investment assets, in order to expand investment options for insurance firms. This on one hand increases opportunity for insurance firms to enhance yield and their asset-liability management, but on the other hand exposes them to greater risks from volatilities of global financial markets and exchange rates, as well as from foreign issuers and instruments in the future.

Chart 3 Share of bond investments of insurance companies by types of instruments

Life insurance companies

Counterparty type	2017	2018	2019	Q2-2020
Government bond	64.7%	62.3%	62.6%	62.4%
SOE bond	6.8%	6.8%	5.4%	5.2%
corporate bond	28.4%	30.9%	32.0%	32.4%

Non-life insurance companies

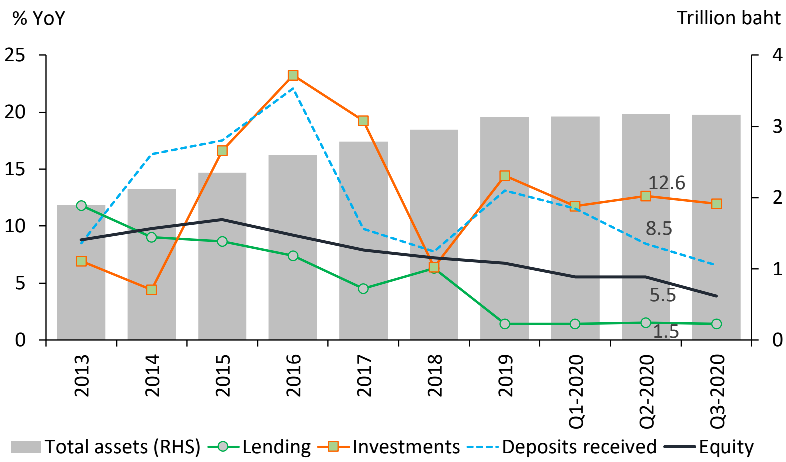
Counterparty type	2017	2018	2019	Q2-2020
Government bond	63.6%	61.0%	59.0%	56.7%
SOE bond	4.0%	3.9%	2.4%	2.7%
corporate bond	32.3%	35.2%	38.6%	40.5%

Source: Office of Insurance Commission.

3.4 Savings cooperatives

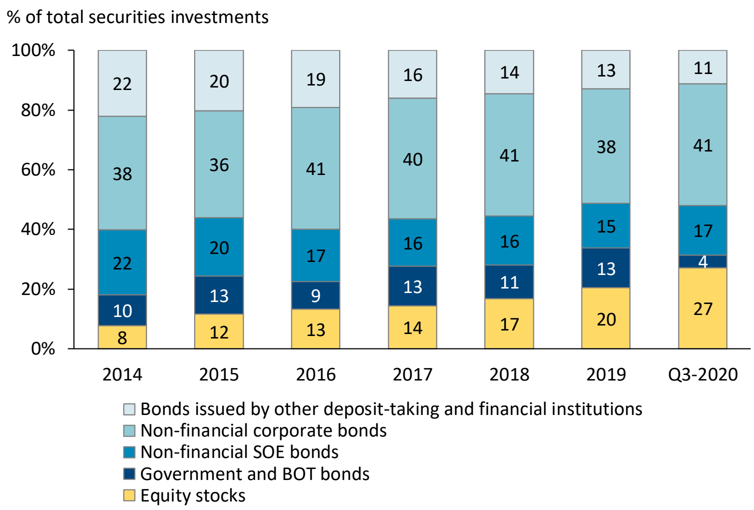
Savings cooperatives continued to search for yield in order to generate sufficient returns to meet their members' expectations. At the end of Q3 of 2020, deposits from members and equity of saving cooperatives grew at 6.5 and 3.9 percent respectively from the same period of the previous year. Although declining, such growth rates still exceeded that of lending to members, which grew at only 1.4 percent **(Chart 4)**. With excess liquidity, savings cooperatives still continued to increase their share of investment in both equity stocks and corporate bonds **(Chart 5)**.

Chart 4 Growth rate of key balance sheet items of savings cooperatives



Sources: Cooperative Auditing Department and Bank of Thailand's calculations.

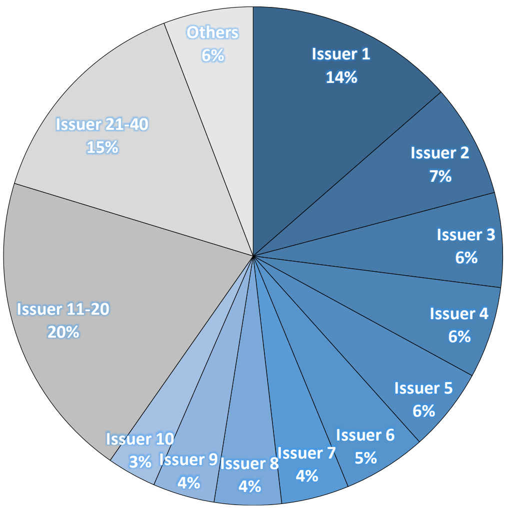
Chart 5 Share of savings cooperatives' securities investments by types of instruments



Sources: Financial statements of savings cooperatives, Cooperative Auditing Department, and Bank of Thailand's calculations.

Although savings cooperatives invest only in equity stocks issued by state enterprises and high quality corporate bonds[34] (having credit rating of at least 'A-'), over 60 percent of their corporate bond investments are concentrated in large corporate issuers **(Chart 6)**. If such bond issuers encounter problems or there is any unexpected event severely affecting their bond prices (for example, if there is a fire sale in the corporate bond market causing corporate bond prices to decline sharply), members of savings cooperatives that have large exposure in such particular bonds may lose confidence and cause panic run. Therefore, **the implementation of regulation to impose limits on saving cooperatives' securities investments should be speed up to mitigate loss to savings cooperatives' investments from such events and its impact on their members' deposits and share capital. In addition, knowledge and understanding of risks from investments and events which could trigger panic run and significant unexpected risks should be enhanced for savings cooperatives' directors and personnel. Savings cooperatives shall be fostered to maintain adequate liquidity to be able to withstand the situation of severe deposit withdrawals if occurs.**

Chart 6 Share of savings cooperatives' investment in corporate bonds by issuers



Source: Bank of Thailand.

[34] In accordance with regulations, savings cooperatives can only invest in low-risk debt securities, such those issued by the government, state-owned enterprises, and financial institutions, and corporate bonds with good credit rating (A- or above).

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