BANK OF THAILAND

Financial Stability Report

2019

Message from the Governor

Throughout the year 2019, Thailand's financial system has undergone several challenges both from external and domestic fronts. The uncertain and prolonged trade tensions have put a drag on global and Thailand's economic growth. This, in turn, has led several countries to ease their monetary policies and show readiness to keep their policy rates low for an extended period. In global financial markets, volatilities in asset prices, capital flows, and exchange rates have stayed at an escalated level. Despite this challenging environment, Thailand's financial system has remained resilient thanks to cushion from sound external positions and stable financial institutions system. The synchronized use of macroeconomic policies, both fiscal and monetary, have also played a crucial role in supporting our economy in the recent periods.

Even though financial stability remains sound and the macroprudential measures implemented have been effective in mitigating risks to some extent, it is likely that financial stability risks will continue to be high going forward. Looking ahead, the sluggish growth outlook and the prolonged low interest rates will provide a backdrop conducive to a build-up of vulnerabilities in several dimensions: (1) Household debt stays at an elevated level, while the debt serviceability of households and SMEs seems poised to deteriorate further with economic conditions. To tackle the debt situations of households and SMEs, both preventive and corrective measures will need to be employed, with priority given to debt restructuring. (2) The search-for-yield behavior might lead to the underpricing of risks, especially in the bond market where corporates have been raising funds via bond issuances in a growing amount. There also continue to be a need to monitor fraudulent investment schemes, such as those related to Ponzi schemes and fake digital tokens, which often lure the public with abnormally high returns. (3) Savings cooperatives have seen their asset sizes growing steadily, along with the increased interconnectedness within the cooperatives system. Part of this is attributable to their search-for-yield behavior and underpricing of risks. (4) Lastly, oversupply in the real estate market still poses a concern. This is particularly the case for condominiums in certain locations, which either face a drag from foreign demand or have had a high number of unsold units since before the loan-to-value (LTV) measure took effect.

The economic and financial environment continues to be fast-changing and highly volatile. Digital technology has been increasingly adopted by financial service providers, interconnectedness in the financial system has risen, and the role of non-bank institutions in the financial system has been growing. In such environment, financial sector regulators need to build collaborative mechanisms to facilitate a timely detection of risks and a joint assessment of shocks to vulnerable pockets in the financial system. The regulators must also collaborate to take due measures to prevent a pocket of risks from escalating into a systemic concern.

The Bank of Thailand, together with the Office of the Securities and Exchange Commission (SEC) and the Office of Insurance Commission (OIC), prepares and distributes the *Report* annually to the general public. It is our hope that the *Report* will inform the public of key developments in the economic and financial system, together with risk factors and their implications on financial stability. This information will prove useful in assessing risks related to investment, financing, financial management, business operations, as well as in preparing for future challenges.

Mr. Veerathai Santiprabhob
Governor
20 January 2020

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Chapter 1: Assessment of Thailand's financial stability and key risks in the periods ahead

Thailand's financial stability remains sound overall. Commercial banks and insurance companies continue to maintain high capital buffers, while mutual funds' investment remains concentrated in high-quality securities. This was confirmed by findings from the Financial Sector Assessment Program (FSAP) conducted for Thailand during 2018-2019[1]. Meanwhile, external stability remains solid.

In the periods ahead, Thailand's financial system will continue to face challenges from the projected economic growth slowdown both at home and abroad, the prolonged low interest rate environment, as well as higher volatilities in asset prices. In such environment, there remain some pockets of vulnerabilities and risk build-ups that could undermine national financial stability, as follows: (1) As household debt stays elevated, negative shocks to the economy could translate into severe income shocks for households, potentially triggering defaults. (2) Excess supply of real estate, notably condominiums in certain locations, could undermine developers' financial and liquidity conditions. (3) The increased interconnectedness within the savings cooperatives system could serve as a transmission channel through which financial and liquidity problems could propagate among cooperatives. (4) The search-for-yield behavior among investors could potentially lead to the underpricing of risks. Moreover, rapid developments in digital technology could bring both new forms of risks (e.g. cyber attacks) and a diverse selection of new financial service providers into the scene. Thus, collaboration among regulators will become increasingly important to ensure effective monitoring and surveillance of risks to financial stability.

1.1 Recent developments in Thailand's economy and financial stability

Global economic growth in 2019 slowed down compared to the previous year. This resulted from international trade tensions, uncertainties stemming from no-deal Brexit, and prolonged geopolitical risks.

The global growth slowdown also led Thailand's growth to decelerate in 2019. The value of merchandise exports continued to contract in line with global trade volume and trading partners' economic growth. Moreover, such decline in exports began to weigh on private consumption and investment. Against the backdrop of worsening growth trajectory, many central banks worldwide, including the BOT, pursued a more accommodative monetary policy stance to provide support for the economy. **Looking ahead, the economic outlook at home and abroad is projected to remain slow. Uncertainties will continue to be high, which in turn will result in increased volatilities in financial markets**, including movements in asset prices, capital flows, and exchange rates.

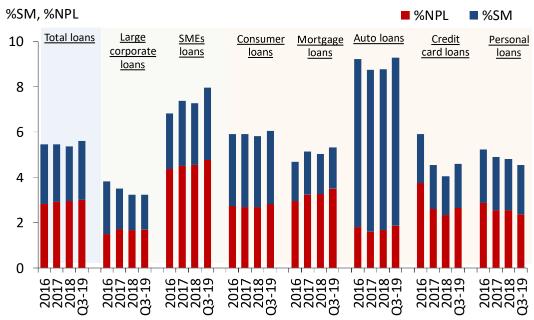
Nevertheless, Thailand's financial stability has remained sound overall. The commercial banking system continues to maintain a strong financial position and a high level of liquidity. This was reflected in the ratio of capital to risk-weighted assets (BIS ratio), the Tier 1 ratio, and the ratio of non-performing loans to total loans (NPL

[1] The FSAP assessment was conducted by mission teams from the International Monetary Fund (IMF) and the World Bank.

ratio), which stood at 19.2, 16.2, and 146.2 percent, respectively, as of 2019Q3. These readings surpassed the criteria required by the new Thai Financial Reporting Standards 9 (TFRS 9)[2], which would become effective in 2020. Meanwhile, the liquidity coverage ratio (LCR) stayed high at 185 percent.

Meanwhile, there continues to be a need to monitor credit quality, which deteriorated from 2018 (Chart 1.1) notably for SME loans. Once concentrated among smaller-sized SMEs, signs of default begun to spread to larger SMEs, some of which were affected by the slowing economy. As a result, commercial banks appeared more cautious in lending to SMEs and focused instead on extending consumer loans.

Chart 1.1 Shares of non-performing loans (%NPL) and special mention loans (%SM) in the commercial banking system, classified by loan type



Note: Special mention loans (SM) refers to loans overdue between 30-90 days.
Source: Bank of Thailand.

Commercial banks also raised their loan loss provision in 2019Q3 compared to the same period in 2018 to build buffer against non-performing loans and economic uncertainties. Given the projected economic slowdown and heightened uncertainties going forward, SMEs' liquidity conditions could tighten even further. Priority should thus be given on debt restructuring as well as on provision of capital and liquidity support for SMEs that still have business potential. For these SMEs, interventions should be carried out as soon as signs of weakening credit quality are detected to ensure their uninterrupted operations.

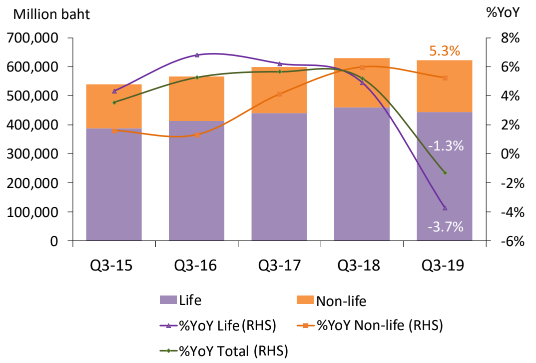
Insurance businesses continue to be resilient, as reflected in the high level of capital adequacy ratio (CAR). In 2019Q3, the CAR of life and non-life insurance companies averaged at 387 and 347 percent, respectively. Their profitability also remained sound, with their return on equity (ROE) and return on assets (ROA) roughly unchanged from the same period in 2018.

However, direct premiums began to show signs of contraction, in line with the slowing economy and the decline in interest rates. In 2019Q3, direct premiums contracted by 1.3 percent from the same period in 2018, driven mainly by life insurance companies **(Chart 1.2)**. This happened as life insurance companies also adjusted their product portfolios by: (1) reducing the sales of endowment life insurance with high guaranteed returns; and (2) increasing the sales of protection life insurance (e.g. whole life insurance) and unit-linked insurance, the latter of which transfers interest rate risks to the insured. Such adjustments would help reduce interest rate risks faced by life insurers, with a side effect that direct premiums would decline since premiums from protection products are lower than premiums from endowment products. Moreover, to enhance returns in the prolonged low interest rate environment, insurance companies would continue to shift their investment from government bonds toward corporate bonds. It should be noted, however, that the increased risks from such shift would still be limited, as

[2] The Thai Financial Reporting Standards No.9 (TFRS 9) will introduce a number of major changes. In particular, regarding loss provisioning for assets and obligations such as loans, the new rules will require provisions to cover expected losses, instead of incurred losses under the old rules.

investment in corporate bonds would be mostly limited to investment-grade bonds.

Chart 1.2 Direct premiums and growth of the insurance business



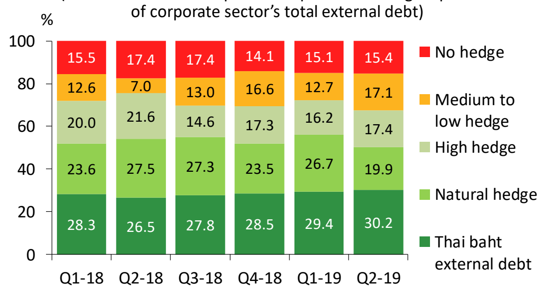
Source: Office of Insurance Commission.

Investment of the mutual fund business[3] remains concentrated in high-quality securities. As of 2019Q3, more than 90 percent of investment by fixed-income funds[4]—including money market funds (MMFs), daily fixed-income (daily FI) funds, and term funds—were in government bonds or corporate bonds with credit ratings of A or above. Moreover, 78 and 29 percent of total investment by MMFs and daily FI funds, respectively, were in highly liquid assets[5]. For mutual funds that invested in foreign fixed-income securities, their exposures were fully hedged. However, term funds' investment abroad was still concentrated in a small number of countries, asset classes, and issuers.

Meanwhile, Thailand's external stability has been strong, which helped cushion against recent bouts of volatilities in global financial markets. As of 2019Q3, the external debt to GDP ratio stood at 34 percent, a relatively low level compared to international standards[6]. For the corporate sector, whose external debt accounted for 44.7 percent of the country's external debt as of 2019Q2[7], exchange rate risks were well-managed. Indeed, an assessment on corporates with external debt as of 2019Q2[8] shows that the share of external debt with high hedge or natural hedge stayed high at 37.3 percent. In addition, 30.2 percent of external debt was denominated in Thai baht, and thus would be immune from exchange rate fluctuations **(Chart 1.3)**.

Chart 1.3 External debt analysis of the corporate sector

(calculated from a sample of companies covering 80 percent of corporate sector's total external debt)



Note: (1) *External debt* includes outstanding liabilities of residents to non-residents. (2) *Non-financial corporations* include domestic juristic persons and state-owned enterprises but exclude financial intermediaries.
(3) The grouping criteria for companies differ from the previous *Financial Stability Report* as follows: (i) *medium to low hedge* refers to cases with exchange rate hedging ratio of less than 66 percent; (ii) *high hedge* refers to cases with exchange rate hedging ratio of more than 66 percent; and (iii) *natural hedge* refers to cases with the ratio of foreign assets to foreign liabilities of 1 or above.
Thai baht external debt refers to cases with the ratio of baht-denominated external debt to total external debt of more than 80 percent.
Source: Bank of Thailand.

Meanwhile, international reserves stood at 221 billion US dollars as of November 2019, or about 3.8 times of short-term external debt, which was higher than the international standard

[3] As of September 2019, the size of the mutual fund business totaled 4.7 trillion baht (28 percent of GDP).
[4] Fixed-income funds accounted for around 51 percent of the total size of mutual funds.
[5] Highly liquid assets are those that can be converted into cash within one day, namely cash, savings deposits, treasury bills, and short-term BOT bonds.
[6] This is in reference to the World Bank's guidelines, which categorize concerns over external debt burden into three levels: (1) "low" for countries with the external debt to GDP ratio lower than 48 percent; (2) "medium" for those with external debt to GDP ratio of 48-80 percent; and (3) "high" for those with external debt to GDP ratio higher than 80 percent.
[7] As of 2019Q3, corporate sector's external debt accounted for 44.1 percent of Thailand's total external debt.
[8] The analysis included 770 firms, which contributed to 80 percent of corporate sector's external debt.

that requires international reserves to at least cover short-term external debt. This reflects that the level of international reserves was enough to provide cushion even in the extreme case where none of the external debt could be rolled over.

1.2 Vulnerabilities in the financial system and key risks in the periods ahead

Despite Thailand's overall financial stability, there continue to be a number of important risk factors going forward. First, Thailand's economic growth is set to decelerate, facing a drag from both domestic and external demand. Given the slowdown in trading partners' economies and global trade, Thailand's merchandise exports are expected to contract, with knock-on effects on private consumption and investment, as well as income of households and corporates. The impact is expected to be pronounced for vulnerable groups, such as low-income households, agricultural households with uncertain income streams, and SMEs. **Second, to shore up their economies, many countries might keep their policy interest rates low for an extended period, an environment often referred to as "lower for longer".** This backdrop would continue to support the search-for-yield behavior, which could lead to the underpricing of risks in many segments. **Third, global financial markets will continue to be highly volatile**, which could be driven by several factors including the uncertainties surrounding trade tensions, the unclear consequences of Brexit, the sluggish global growth outlook, as well as geopolitical risks. For Thai financial markets, these factors could translate into higher volatilities in asset prices, capital flows, and exchange rates. **Indeed, sharp fluctuations in asset prices could reduce investment returns severely, especially for risky assets.** In the times when investors lose confidence, these assets tend to be the first to face sell-offs, leading to amplified price movements compared to other asset classes. On top of this, price movements could be even more pronounced for illiquid securities. **Fourth, rapid advancements in digital technology** could give rise to new forms of financial stability risks (e.g. cyber risks) and allow for a faster transmission of risks across many financial service providers. The technology also allows new groups of financial service providers (e.g. BigTech and FinTech companies) to emerge, some of which are still outside the regulatory purview of financial regulators.

Given the economic and financial context as outlined above, there remain some key pockets of vulnerabilities that could pose risks to financial stability going forward, as follows:

(1) Household debt: The elevated level of household debt could lead to a further build-up of vulnerabilities among households. **Left unaddressed, this issue could impair households' ability to withstand economic shocks, potentially leading to widespread defaults.** This, in turn, would lead to deterioration in loan quality among financial institutions *(see Chapter 2 for more details).*

(2) Real estate sector: The BOT had revised the loan-to-value (LTV) measure, effective from 1 April 2019 onwards. The main objectives were to improve mortgage lending standards and curb excessive speculation that could lead to massive price corrections, which would lead to a negative wealth effect on the public and the broader economy. The measure was also designed to minimize the impact on real-demand homebuyers. **After the measure took effect, speculation and imbalances in the real estate market showed signs of abating, in line with the measure's intended objectives**, whereas mortgages granted to real-demand buyers still posted robust growth. Meanwhile, real estate developers made adjustments by delaying project launches and pivoting strategies to focus more on real-demand buyers. **It should be noted, however, that some developers might take longer to adjust, especially those focusing on condominiums in certain locations that either face a drag from foreign demand or have had a high number of unsold units since before the LTV measure took effect** *(see Chapter 3 for more details).*

(3) Savings cooperatives: Despite the slowing asset growth of the savings cooperatives system, **there continues to be a need to monitor the increased interlinkages within the cooperatives system due to mutual lending and deposit-taking activities among savings cooperatives, which could serve as an important channel of shock propagation.** In addition, the search-for-yield behavior among savings cooperatives continues to warrant monitoring *(see Chapter 4 for more details)*.

(4) The search-for-yield behavior: Such behavior could involve inadequate risk assessments or the underpricing of risks, as reflected in the concentration of investment in certain risky assets and securities abroad. Negative shocks to these assets or counterparties could thus translate into massive losses to mutual funds. Furthermore, heightened uncertainties and volatilities in global financial markets would make it more difficult for investors to assess risks properly. **With regard to financing activities, corporates have been issuing high-yield bonds (i.e. non-investment grade and unrated bonds) in a growing amount.** These bonds are held largely by retail investors, who might not be fully aware of all the risks involved. **On the other hand, large conglomerates have been raising more funds especially via bond issuances,** resulting in a higher degree of issuer concentration risks in the bond market. The business and financial structures of large conglomerates have also become more complex, which has made it more challenging to assess their risks appropriately *(see Chapter 5 for more details)*.

Amid the fast-changing economic and financial landscapes, the financial system has become more complex, more interrelated, and populated by a more diverse set of service providers. The BOT, the Office of the Securities and Exchange Commission (SEC), and the Office of Insurance Commission (OIC) will work together to assess and monitor risks on a regular basis. The regulators will also improve and enforce regulations as warranted by circumstances to prevent the build-up of vulnerabilities that could undermine national financial stability. **To this end, it is vital to establish collaborative mechanisms to facilitate financial stability policy coordination at the national level, which would strengthen the effectiveness of national financial stability oversight going forward** *(see Chapter 6 for more details)*.

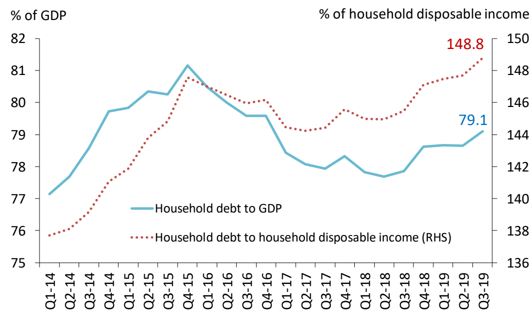
Chapter 2: Households' financial vulnerabilities and their impact on financial stability

Thailand's household debt level is considered high compared to other countries. An analysis based on micro-level data shows that Thai people tend to have a low savings rate, become indebted at a younger age, and remain indebted for longer. Moreover, the majority of household debt consists of consumer loans, which are mostly short-term. This leads to high monthly debt payments and low savings. Looking ahead, households' financial position may become more vulnerable, especially in the event of negative shocks such as the fall in income, employment, or work hours, which could trigger widespread defaults. The current household debt situations, in fact, are a result of various factors, including households' increased spending and decreased savings, intense competition in retail lending among financial service providers, and government stimulus measures in the past (e.g. the first car rebate scheme). Therefore, tackling the household debt problem requires a holistic approach that includes both preventive measures that discourage over-borrowing and corrective measures that break the cycle of over-indebtedness. Also, collaborations and initiatives from all relevant stakeholders, both public and private, are much needed to ensure prompt and tangible improvements in this area.

Thailand's household debt to GDP ratio stood at 79.1 percent as of 2019Q3 (Chart 2.1), among the highest in the region. The ratio resumed its uptrend in 2018H2 following the slowdown in GDP growth and the expansion of consumer loans in all categories, namely auto loans, personal loans, mortgage loans, and credit card loans **(Chart 2.2)**.

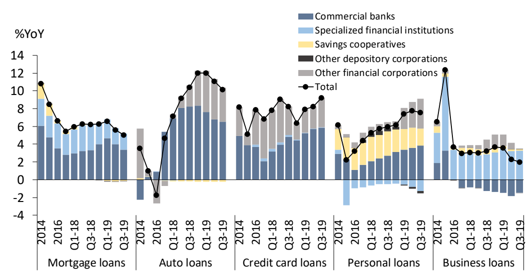
The high debt burden not only weighs on purchasing power and thus overall economic growth, but also makes households more vulnerable financially and more susceptible to shocks. Adverse economic developments such as negative income shocks, notably amid the sluggish growth outlook, could trigger widespread defaults. For this reason, policymakers should recognize the importance of assessing households' financial vulnerabilities and their impact on financial stability. This aids the preparation of appropriate policy tools to address emerging risks in a timely, targeted, and adequate manner.

Chart 2.1 Household debt



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

Chart 2.2 Growth of household debt, classified by types of loans and financial institutions



Note: Personal loans granted by other financial corporations picked up in the recent years due to the revision of reporting standards, namely the inclusion of auto title loans since February 2019.
Source: Bank of Thailand.

2.1 Framework for assessing households' financial vulnerabilities[9]

The increase in debt creation among households could lead to improved living standards and lend support to economic growth if the new debt generates future income streams, promotes better risk management and consumption smoothing, **and fits with borrowers' ability to service debt and sustain their livelihood.** But instead, if the borrowing goes toward financing unnecessary consumption and does not fit with borrowers' debt serviceability and affordability, this could lead to over-indebtedness that could hurt households' financial standing and livelihood. Households' inability to pay back their debts would lead to higher non-performing loans in the financial institutions system, which, if widespread, could undermine national financial stability.

To assess whether the growth in debt creation is concerning, both the benefits and the costs must be taken into consideration. On the benefits side, greater access to credits could improve households' living standards and support the overall economy. **On the costs side,** borrowing that finances unnecessary spending could lead to over-indebtedness, especially among vulnerable groups such as those with low or uncertain income, first jobbers, and retirees. Therefore, the following four dimensions need to be assessed: **(1) Financial institutions' ability to screen borrowers** (i.e. ability to evaluate whether an applicant should be granted loans) needs to be considered. This could be assessed and tracked using indicators related to financial institutions' credit standards. **(2) Households' balance sheets** also need to be looked at. These would indicate households' cushion against negative economic shocks, capacity to service current and future debts, as well as loan affordability. Furthermore, **(3) current signs of default and (4) default risks in the future** also need to be evaluated.

If the assessment shows satisfactory results for (1) and (2)—that is, financial institutions have effective lending standards in place and households have sound financial positions—then the increase in debt creation would not lead to over-indebtedness or defaults both at present and in the future, as captured in (3) and (4) **(Chart 2.3)**.

2.2 Results from the assessment of risks arising from household indebtedness[10]

The assessment of risks arising from household indebtedness reveals that the household debt situations have deteriorated in all four dimensions in the past 1-2 years. Lending standards became more lenient in certain areas, while households' financial positions grew more fragile due to lower savings as well as higher and more prolonged indebtedness. Risks of default also rose both at present and in the future. More detailed results from the assessment are as follows.

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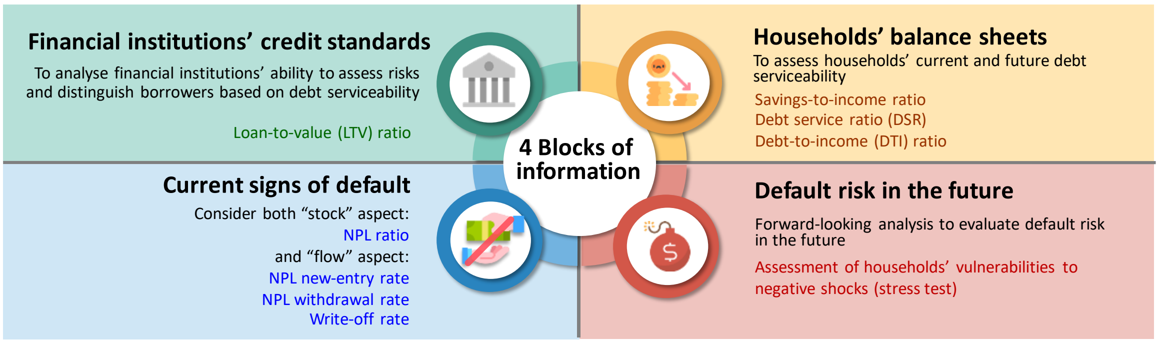
[9] The framework is developed from the in-depth household debt assessment framework presented in the previous *Financial Stability Report*. In this revised framework, the six risk metrics used in the previous one are replaced with the four blocks of information.

[10] The analysis was based on two main datasets, namely: (1) the Socio-Economic Survey (SES) conducted by the National Statistics Office, which cover about 40,000-50,000 households annually; and (2) contract-level data on loans given to individuals, compiled by the National Credit Bureau (NCB), which include loans given by over 90 bank and non-bank members who account for more than 87 percent of total household debt as published by the BOT.

Chart 2.3 Four blocks of information for household financial vulnerability analysis



Source: Bank of Thailand.

1st Dimension: Financial institutions' credit standards

Stronger competition in the retail loan market has led to more lenient lending standards

The growth of financial institutions' corporate loans has slowed down, as large conglomerates have been relying more on the bond market as a means of financing and financial institutions have become more cautious in lending to SMEs, whose credit quality continues to deteriorate. **Consequently, financial institutions have shifted their focus to compete more intensely in the retail loan market, and loosened lending standards to preserve income and market shares.** For example, in giving out secured loans (e.g. mortgage or auto loans), financial institutions have loosened their lending practices by expediting loan approvals and notifications. These loans, indeed, are prioritized since they have collaterals that could be sold to compensate for losses in the event of default. **In the process, it could be the case that financial institutions might not have given due consideration to borrowers' affordability risks.**

Also contributing to the surge in household indebtedness are marketing campaigns notably from real estate and auto companies, which are designed to help the companies unload their unsold inventory. Examples of such campaigns include cash-back loans for condominium purchases and mortgages without down payments (i.e. with the loan-to-value (LTV) ratio exceeding 100 percent). Meanwhile, installment periods for auto loans are often extended. **These marketing campaigns have contributed to risk build-ups and vulnerabilities among households.**

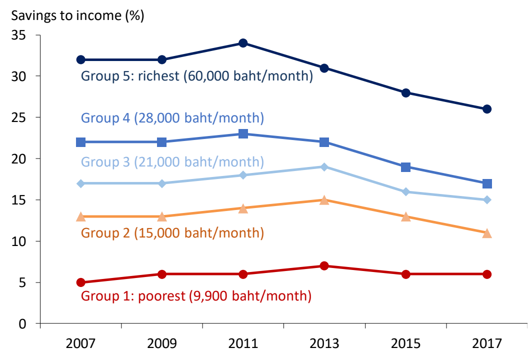
As economic growth is expected to slow down and retail credit quality to worsen further in the coming periods, however, financial institutions will likely become more concerned over borrowers' credit risks. Indeed, they have begun to show greater caution in giving out consumer loans by tightening their credit standards.

2nd Dimension: Households' balance sheets

Thai households have become more vulnerable financially. They tend to save less, borrow at an earlier age, have high debt burden, and remain so into an old age.

Thai households' savings rate has fallen across all income groups in the past decade (Chart 2.4), with the lowest-income group barely saving at all. In addition to low interest rates that reduce the incentive to save, lifestyle changes have also contributed to lower savings. New technology has made online shopping and payments more convenient, while consumerism trends are spreading faster particularly among teenagers and first jobbers. Thus, households are spending more money more quickly. When spending outpaces income, households save less and are forced to take on large amounts of debts when financial needs arise. Based on a survey by the BOT and the Nielsen Company[11] on 1,500 households across the country, indebted households with financial problems tend to exhibit overspending behaviors. For instance, they spend 3-5 times more on clothing and entertainment compared to indebted households without financial problems. The data also show that indebted households tend to spend a larger sum of money on status symbols, such as cars, compared to debt-free households.

Chart 2.4 Savings-to-income ratio of Thai households



Note: ( ) denotes households' average monthly income in 2017.
Source: Socio-Economic Survey (SES) by National Statistical Office and Bank calculations.

An analysis based on the contract-level loan data from the National Credit Bureau (NCB)[12] also reveals that **Thai individuals tend to take on debt earlier, become delinquent at a young age, accumulate a large sum of debt, and remain indebted into an old age.** The trend is particularly pronounced among agricultural households. Also, households have become more prone to be trapped in a cycle of indebtedness. **In fact, the majority of the increase in household debt over the past nine years came from additional borrowings by those already indebted.** These debtors took on more debt of the same loan categories, mostly personal and credit card loans. **In addition, a growing number of individuals show a habit of borrowing via multiple contracts from many financial institutions at once.**

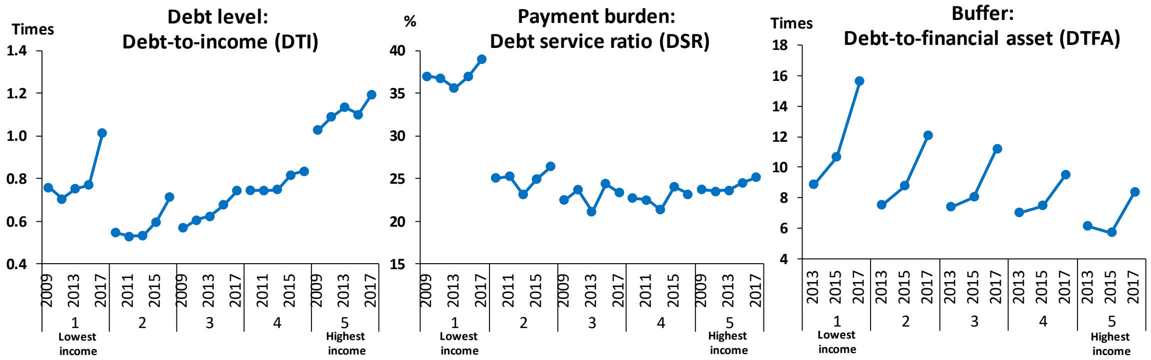
Given the high level of debt and the fact that 32 percent of household debt is personal consumption loans[13] with short tenors and high interest rates, households have to struggle with large monthly payments, and those with vulnerable financial positions have become more prone to defaults. Based on the Socio-Economic Survey (SES) data by the National Statistical Office, an assessment of default risks across borrowers' income and occupation groups is conducted. The result reveals that **among those indebted, low-income households, agricultural households, and individuals with no salary (e.g. retirees) are the groups that are most vulnerable financially and have high default risks.** Given their high debt-to-income (DTI) ratio and debt service ratio (DSR), they tend to have insufficient income after servicing debt. Plus, their financial cushion is limited, as suggested by the low debt-to-financial asset (DTFA) ratio **(Charts 2.5 and 2.6)**.

[11] This survey was conducted between July and August 2017 in cities and municipalities with high concentration of debt (i.e. high density of borrowers with sizable outstanding debts). Sample households were chosen to represent all regions, income groups, and occupations.

[12] Based on findings by Sommarat Chantarat et al. in "Thailand's Household Debt through the Lens of Credit Bureau Data: Debt and Delinquency" published on aBRIDGEd Issue 10 of 2017, and "Household Debt and Delinquency over the Life Cycle" from aBRIDGEd Issue 9 of 2019.

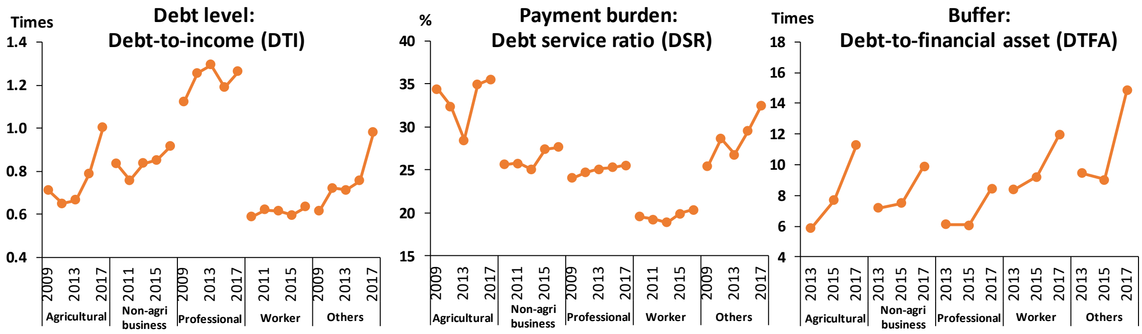
[13] This includes personal loans, credit card loans, and other loans, excluding margin loans and student loans.

Chart 2.5 Structure of household debt burden, classified by income group



Sources: Socio-Economic Survey (SES) by National Statistical Office and Bank calculations using 1 percent top-bottom trimmed means.

Chart 2.6 Structure of household debt burden, classified by occupation group



Note: *Others* refer to unemployed households, e.g. retirees or those receiving income from investment and other assets.
Sources: Socio-Economic Survey (SES) by National Statistical Office and Bank calculations using 1 percent top-bottom trimmed means.

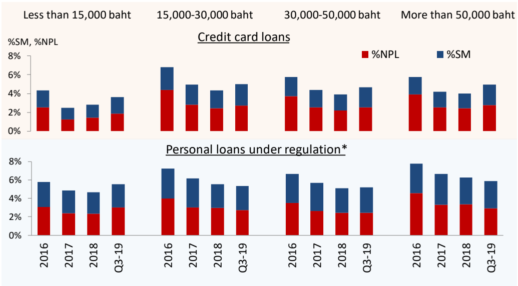
3rd Dimension: Current signs of default

The share of non-performing loans (NPLs) is on the rise. This reflects the deterioration in households' debt serviceability notably for mortgage and auto loans, where NPL new-entry rates show an uptrend.

For consumer loans, the share of special mention (SM) loans (i.e. 30-90 days past due) **and NPLs rose in 2019, which reflected the deterioration in households' debt serviceability[14]. (1) For credit card loans, the share of NPLs rose across all income groups, while the SM and NPL ratios for personal loans climbed among borrowers with less than 15,000 baht in monthly income (Chart 2.7). (2) The share of new NPLs was on the rise, especially for mortgage and auto loans.** Indeed, the NPL new-entry rate of the commercial banks system continued to rise in 2019 **(Chart 2.8)**. Moreover, the rate of managed NPLs for consumer loans, including debt write-offs and sales to asset management firms, **rose persistently, doubling from 2011 to 2019Q3. The fact that more debt is sliding down to NPL status, indeed, testifies to the growing severity of the household debt problem.**

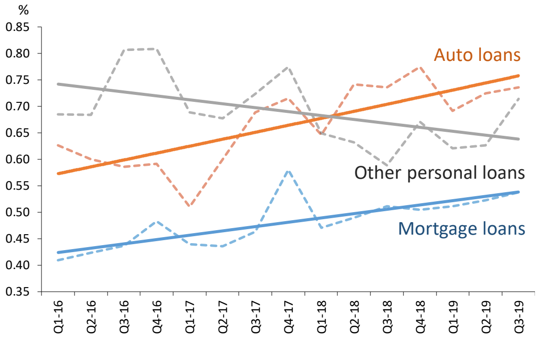
[14] An analysis based on NCB data (which also include loans by non-bank financial institutions and debts undergoing a formal legal process) reveals that consumer loan quality has been declining since 2013. In particular, new borrowers become delinquent at a faster rate, while loan quality of existing borrowers shows deterioration across nearly all age groups.

Chart 2.7 Credit quality of credit card and personal loans under regulation of the commercial banking system, classified by borrower's income



Note: * Excluding loans for business purposes and auto title loans.
Source: Bank of Thailand.

Chart 2.8 NPL new-entry rates of consumer loans of the commercial banking system



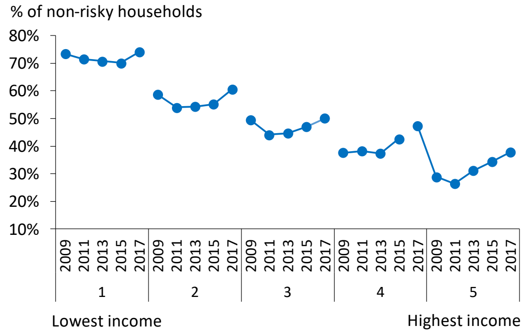
Note: Dashed and solid lines indicate actual data and linear trends, respectively.
Source: Bank of Thailand.

4th Dimension: Default risks in the future

Thai households are becoming more sensitive to income shocks, especially in the context of slowing economic growth.

As economic growth is expected to weaken going forward, the likelihood of households facing negative income shocks increases. These shocks, coupled with the high level of household debt, could make households more vulnerable financially and more prone to defaults. A stress-testing exercise based on the 2017 SES data is conducted in the event of a 20 percent fall in income (benchmarked from the decline in overtime pay). The result shows that **the share of households who are not "at risk" prior to the shock** (i.e. with enough income to cover non-discretionary spending and debt servicing) **but would be at risk after the shock** (i.e. with income falling short of non-discretionary spending and debt servicing) **has risen from previous years for all income groups (Chart 2.9), notably for agricultural and low-income households.** This suggests that households have become more vulnerable financially and more sensitive to negative shocks, which in turn could undermine their debt serviceability in the future.

Chart 2.9 Share of households that shift from non-risky to risky households in the event of 20 percent income shock, classified by income group



Note: (1) Calculated from the number of households that change from non-risky to risky households in the event of 20 percent income shock, divided by the number of non-risky households in the baseline case. (2) *Risky households* refer to those with income falling short of non-discretionary spending and debt servicing.
Sources: Socio-Economic Survey (SES) by National Statistical Office and Bank calculations.

Taken together, the assessments from all four dimensions suggest that the Thailand's household debt situations remain concerning, especially for those highly sensitive to income shocks. A holistic approach to this issue is required to ensure concrete and sustained results, and collaborations from all stakeholders are vital *(see Box 1 for more details).* The entire debt cycle needs to be addressed, as follows. **(1) Prior to debt creation:** Financial literacy and discipline should be promoted to empower the public especially in the areas of financial planning and money management. **(2) During debt creation:** The decision to give out loans should take into account borrowers' debt serviceability and affordability *(see Box 2 for more details).* **Lastly, (3) after debt creation**, emphasis should be placed on assisting borrowers in breaking the cycles of over-indebtedness.

Box 1: A holistic approach to addressing the household debt problem

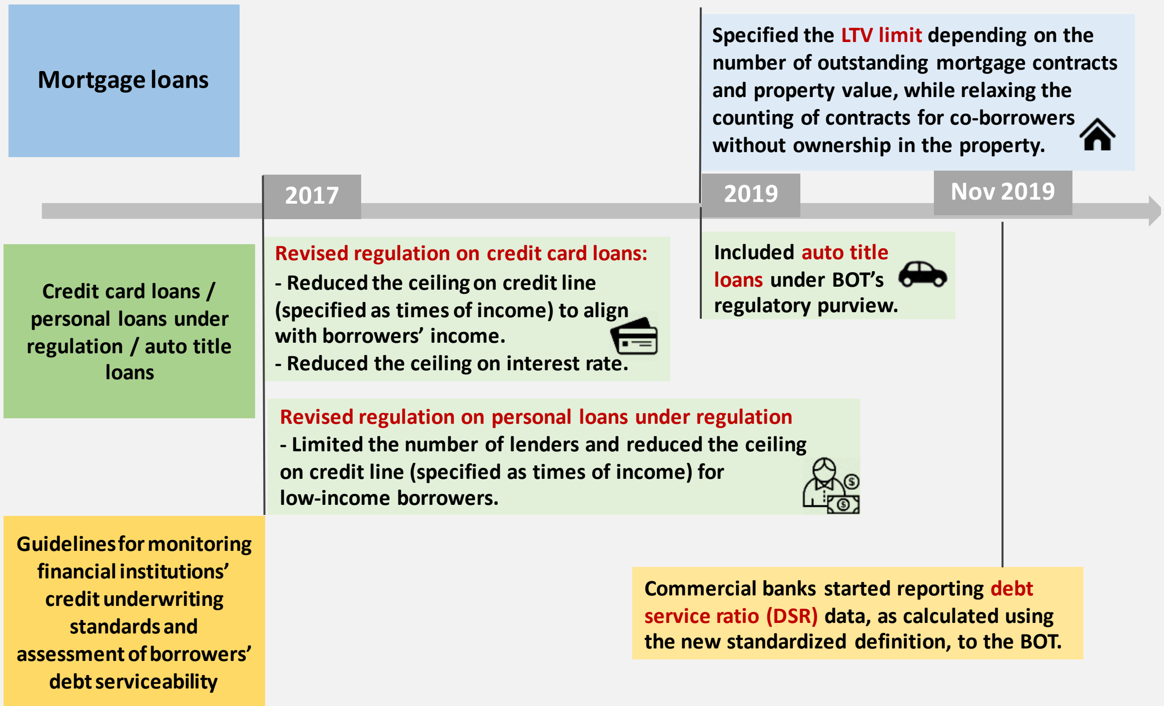
Thailand's high level of household debt is a structural problem caused by both supply and demand factors, namely (1) households' higher spending and lower savings and (2) financial institutions' intensified competition in the retail loan market. Some of government stimulus measures in the past aiming to boost consumption (e.g. the first car rebate scheme) has also contributed to debt creation from time to time. **Thus, in tackling the household debt problem, collaboration among all stakeholders is needed so that the entire debt cycle—before, during, and after debt creation—is addressed in a holistic manner.** The BOT, in collaboration with other government and private agencies, has made progresses in addressing the household debt problem, as follows:

(1) <u>Prior to debt creation:</u> Financial literacy and discipline are widely promoted to the public. The objectives are to empower households so that they have skills in financial planning and money management (i.e. income and expense planning), develop financial discipline and savings habits that prevent over-spending, and have a good understanding of financial products to the point that households can utilize these products in a way that suits their financial needs and capabilities. The BOT, together with partners such as the Thai Bankers Association, the Office of Vocational Education Commission, and the private sector, has launched campaigns to promote financial literacy and create role models among target groups. These include vocational students (the "Fin D We Can Do" campaign) and first jobbers (the "Fin D Happy Life" campaign). The objectives of these campaigns are to foster financial literacy, along with proper attitudes toward money and financial habits, which in turn will build financial immunity among individuals who will play a key role in driving the country forward in the years to come.

In the meantime, **the OIC has been promoting the use of micro-insurance products, particularly in the agricultural sector** (e.g. in-season rice insurance). These products offer low to medium-income farmers a more effective hedging tool against the risks coming from natural disasters, pests, or plant diseases. This could help reduce financial vulnerabilities of agricultural households in the event of shocks or uncertainties.

(2) <u>During debt creation</u>: Financial institutions are supervised so that they follow responsible lending practices in lending to retail customers. In the recent periods, the BOT has issued regulations on retail lending to ensure that credit lines and interest rates offered are in line with borrowers' debt serviceability. An example of these initiatives **(Chart 1)** is **the revision on rules for credit card loans and personal loans under regulation (2017)**, which was designed to prevent excessive debt creation given the borrowers' income and debt serviceability. Also, **the introduction of car-for-cash loans supervision (2019)** helped enhance the standards of service and strengthen consumer protection by ensuring access to credit at reasonable prices and fair treatments. In addition, **the revised loan-to-value (LTV) measure (latest revision in April 2019)**, which imposes LTV limits on the second and subsequent mortgage contracts, as well as contracts for housing units with value exceeding 10 million baht, was aimed to strengthen financial institutions' loan underwriting standards and reduce speculation in the real estate market. These, in turn, would allow real-demand homebuyers to purchase housing at a more affordable price.

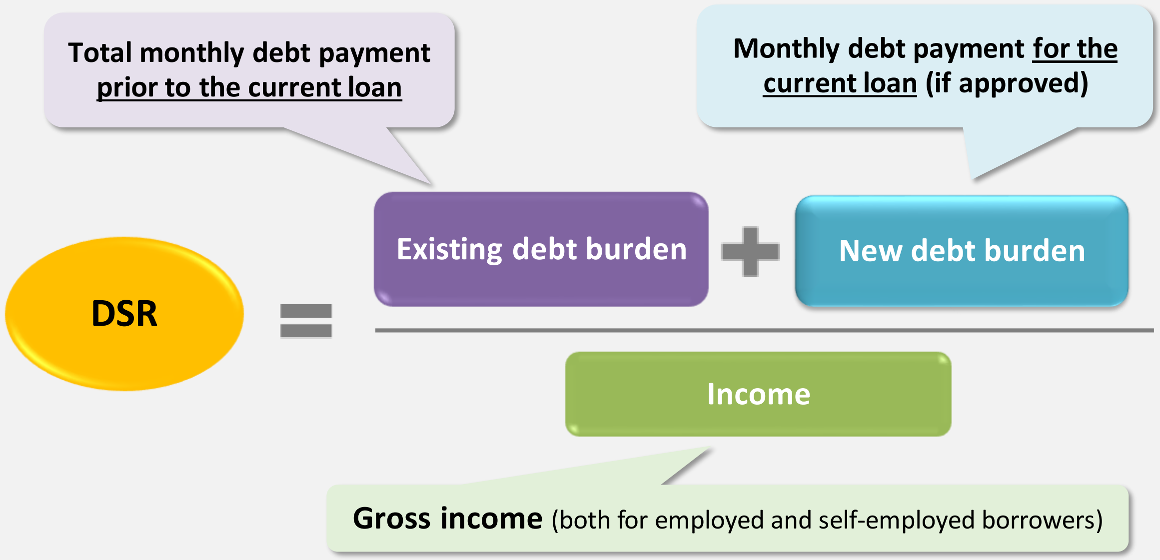
Chart 1 Summary of measures on retail lending since 2017



Note: *Loan-to-value (LTV) limit* refers to the prescribed ceiling of LTV beyond which financial institutions are not allowed to lend.
Source: Bank of Thailand.

The BOT, in collaboration with financial institutions, has been working toward the standardized definition and calculation of the debt service ratio (DSR), encompassing both the debt burden and the income components. For the calculation of debt burden, it was agreed that **the total sum of monthly debt payments**—both for existing loans (current debt burden) and for new loans being considered (new debt burden)—should be used. For the calculation of income, it was agreed to be **the total gross income (i.e. before expenses)** from all regular sources, properly supported by proof-of-income documents or reliable estimates **(Chart 2)**. Once completed, the standardized DSR database will prove useful for the tasks of monitoring financial institutions' credit standards and assessing borrowers' debt serviceability in the future. Furthermore, Thai commercial banks have expressed their joint commitments to adhere to the sustainable banking framework by integrating due consideration of environmental, social, and governance factors into their lending practices. Under the commitment, commercial banks will adopt a common set of responsible lending guidelines, including ***the guidelines on retail lending to address the problem of over-indebtedness among households***. This guideline emphasizes on loan affordability, making sure that borrowers have enough residual income to sustain their livelihood *(see more details in Box 2)* and lenders do not induce over-borrowing given borrowers' financial needs and affordability.

Chart 2 Standardized calculation for debt service ratio (DSR)



Source: Bank of Thailand.

(3) After debt creation: The focus at this stage is on assisting retail borrowers in breaking the cycle of over-indebtedness. The BOT has launched the Debt Clinic program, in partnership with the Thai Bankers Association, the Association of International Banks, the Credit Card Club, the Personal Loan Club, and the Sukhumvit Asset Management (SAM). With SAM serving as an intermediary between debtors and creditors, **the Debt Clinic provides one-stop debt restructuring service for debtors with non-performing loans from credit card loans or uncollateralized personal loans with multiple creditors**[15]. In October 2019, the program was expanded to cover debtors with a single creditor, and soon those currently facing prosecution will also be able to apply. Thus, the program will be able to assist a larger pool of troubled borrowers. In addition, efforts are currently underway to encourage financial institutions to engage borrowers proactively as soon as signs of weakening credit quality are detected, so as to prevent them from becoming non-performing borrowers.

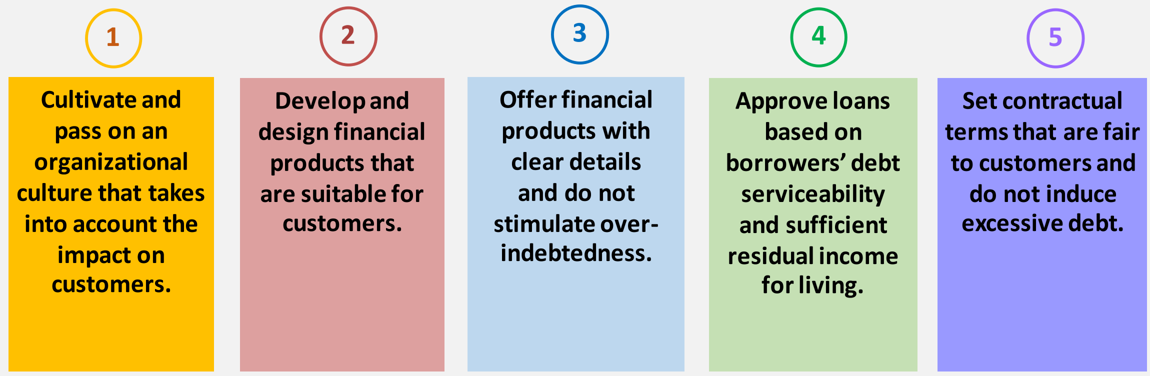
[15] The first phase of the Debt Clinic program (in 2017) covered only 16 creditors that were commercial banks. In the second phase (May 2019), the program was expanded to also cover debtors of credit card and personal loans given by 19 non-bank financial institutions. Together, these creditors accounted for nearly all outstanding credit card and personal loans.

Box 2: Guidelines for assessing affordability risks of retail borrowers

In the loan issuance process, **financial institutions have procedures in place to assess and manage credit risks, or the risks that borrowers may default on their loan obligations**. Although credit risk assessment methods may differ across institutions, three main factors are generally considered, namely: **(1) probability of default (PD)**, which is determined from borrowers' basic characteristics such as age, occupation, income, data on existing debt obtained from the National Credit Bureau (NCB), and credit scoring; **(2) loss given default (LGD)**, which depends on the amount of funds that could be recovered from various risk mitigation tools, such as the value of assets pledged as collaterals; and **(3) exposure at default (EAD)**. Based on these factors, if borrower's credit risks are perceived to be low (e.g. when the loan is over-collateralized, or when the financial institution is granted the first claim on borrower's payroll), the loans will likely be granted. However, **the prevailing loan issuance practice may not give sufficient consideration to affordability risks**—namely, the risks that debt payments would leave borrowers with insufficient income to maintain their livelihood. Failure to consider affordability risks could spur excessive debt creation beyond borrowers' financial capacity. These borrowers could become more vulnerable financially and face difficulties in servicing debt and sustaining their livelihood in the future. If the borrowers eventually become unable to pay back their loans, it is the lending institutions themselves that will be affected.

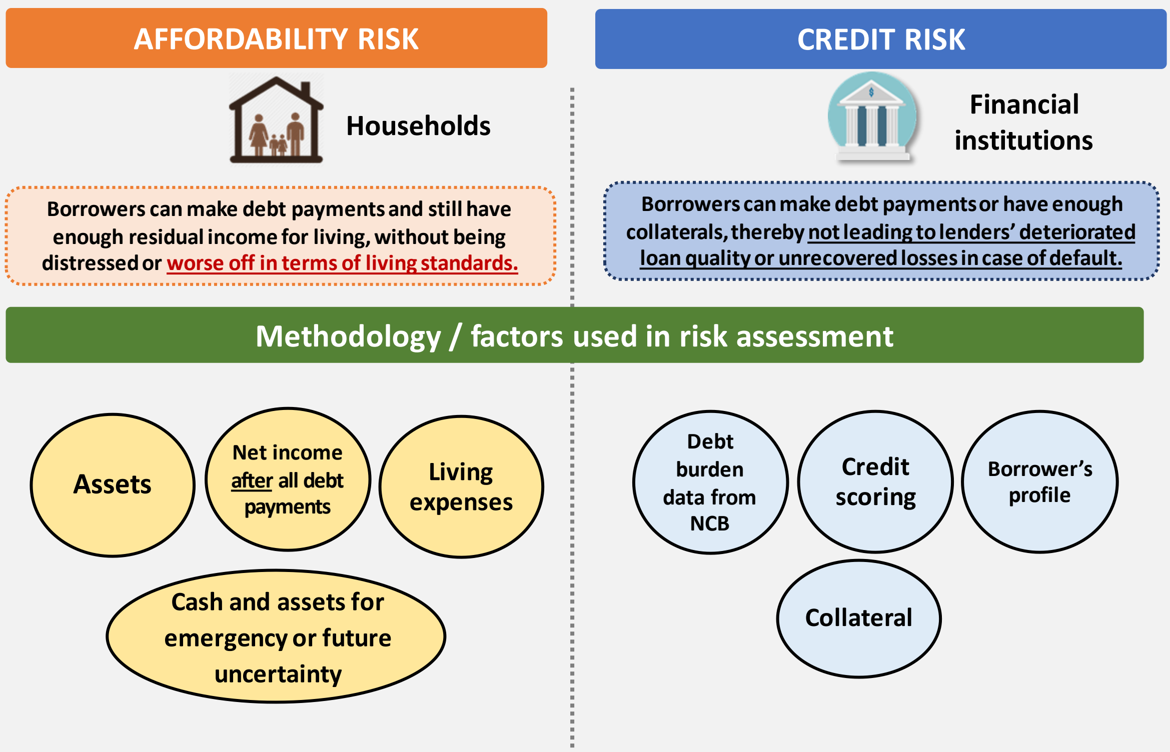
Thai commercial banks have expressed joint commitments to adopt a common set of guidelines to promote responsible lending, which include retail lending practices aimed at addressing over-indebtedness among households. Due consideration should be given to borrowers' affordability risks throughout the entire lending process (i.e. end-to-end). This includes the fostering and passing on of good organizational culture, product design and development, marketing, lending decisions, and drafting of contracts **(Chart 1)**. **In assessing affordability risks, the financial institution determines whether the borrower is left with sufficient residual income**—that is, income after servicing all debts both from the financial institution and other lenders—**to afford non-discretionary expenses** (e.g. food, water, electricity, and transportation) **and cushion for unforeseen events or future uncertainties (Chart 2)**. The level of residual income that each borrower requires may differ, depending on various factors such as the cost of living in each area and family obligations. With the adoption of the guidelines, new lending to retail customers would incorporate a more careful assessment of affordability risks. As a result, households will receive loans that better reflect their financial needs and debt serviceability.

Chart 1 End-to-end lending process that incorporates borrowers’ affordability risks



Source: Bank of Thailand.

Chart 2 Differences between affordability risk and credit risk assessment



Note: NCB refers to the National Credit Bureau.
Source: Bank of Thailand.

Chapter 3: Adjustments in the real estate sector following the revision of the loan-to-value (LTV) measure and risks in the periods ahead

Following the revision of the LTV measure by the BOT, which became effective since 1 April 2019, speculation and imbalances in the real estate market showed signs of abating in line with the measure's intended objectives. Financial institutions tightened their loan underwriting standards, while first-time homebuyers (servicing one mortgage) stood unaffected. Housing prices, especially for condominiums, started to decelerate, and developers also adjusted by delaying project launches. Nonetheless, some developers might take longer to adjust, notably those focusing on condominiums in certain locations that either face a drag from foreign demand or have had a high number of unsold units since before the LTV measure took effect. In this light, there continues to be a need to monitor adjustments in the real estate sector, especially oversupply of condominiums in certain locations, as well as developers' plans for new project launches in the future in response to changing demand conditions.

3.1 Adjustments in the real estate sector following the revision of the LTV measure and evaluation of its effectiveness

In 2017-2018, there continued to be a further build-up of risks in Thailand's real estate sector, especially in the mortgage loan market. Competition in the mortgage loan market intensified as financial institutions shifted their focus to give out more collateralized loans to retail borrowers. This was done partly to replace corporate loans, where growth slowed partly due to the fact that some corporates chose to raise funds via bond issuances instead during the periods of low interest rates. For the mortgage loan market, the intense competition resulted in loosening credit standards in several dimensions, such as the practice of giving out loans in excess of collateral values, or in some cases, giving out loans without down payments required. Moreover, some practices in giving out loans were found to encourage borrowing for investment or speculative purposes (e.g. renting or reselling at higher prices), not for real demand for housing. This was reflected in the borrowing for second and subsequent mortgage contracts, which kept rising and received high LTV ratios comparable to those of the first contracts. In addition, there was a pick-up in high-LTV loans for housing units with value exceeding 10 million baht. These groups of borrowers were also found to play a role in driving up real estate prices at a pace faster than borrowers' income, especially for low-income borrowers, thereby affecting real-demand homebuyers' housing affordability. Meanwhile, real estate developers continued to raise funds to expand their businesses in anticipation of rising demand, resulting in an increase in oversupply especially for condominiums in certain locations.

Excessive competition in the mortgage loan market was a factor that bolstered speculation in the real estate sector. If growth in the real estate sector was not supported by real demand and the economy was hit by severe shocks in the future, borrowers with speculative demand would be the first to adjust. This could weigh on housing demand and lead to massive price correction, which could become widespread and hurt the general public and real-demand buyers. **The BOT thus revised the LTV measure, which took effect since 1 April 2019.** Key revisions included **a more stringent limit of the LTV ratio for (1) second and subsequent mortgage contracts and (2) housing units with value exceeding 10 million baht (Table 3.1).** The revised LTV measure was implemented in a way that minimized any impact on real-demand buyers[16], and the main objective of the measure was to curb excessive speculation in the real estate market. This would facilitate an orderly adjustment in the real estate sector and reduce risks of massive and widespread price correction in the future. In addition, the revision would enhance loan underwriting standards of financial institutions, so that they assess risks properly and take into account borrowers' debt serviceability throughout the contractual length.

In the periods after the LTV measure took effect, the real estate market started to face a drag both from foreign demand that slowed with the global economy and domestic demand that showed signs of deceleration. In the meantime, the BOT continued to monitor adjustments of key stakeholders closely and evaluate the effectiveness of the measure. The results suggested that **speculation and imbalances in the real estate market showed signs of abating in line with the measure's intended objectives. However, some developers might take longer to adjust, notably those focusing on condominiums in certain locations that either faced a drag from foreign demand or had a high number of unsold units since before the LTV measure took effect.** Key details are as follows.

(1) Financial institutions tightened their credit underwriting standards, particularly for second and subsequent mortgage contracts where improvements were seen for debtors of all income groups.

Table 3.1 Summary of the revised LTV measure

<table>
<tr><th rowspan="2">Mortgage contract</th><th colspan="2">Previous LTV measure</th><th colspan="2">New LTV measure
(effective on 1 April 2019)</th></tr>
<tr><th>Low-rise</th><th>High-rise</th><th>Low-rise</th><th>High-rise</th></tr>
<tr><td colspan="5">Case 1: Collateral value of less than 10 million baht</td></tr>
<tr><td>1st contract</td><td colspan="2" rowspan="3">No LTV limit. However, if financial institutions extend loans at an LTV ratio exceeding the prescribed threshold*, additional capital must be maintained.</td><td colspan="2">LTV limit at 100%</td></tr>
<tr><td>2nd contract</td><td colspan="2">LTV limit at:
90%, with the 1st outstanding contract having been paid for ≥ 3 years
80%, with the 1st outstanding contract having been paid for < 3 years</td></tr>
<tr><td>3rd and subsequent contract</td><td colspan="2">LTV limit at 70%</td></tr>
<tr><td colspan="5">Case 2: Collateral value of 10 million baht or more</td></tr>
<tr><td>1st and 2nd contract</td><td colspan="2" rowspan="2">No LTV limit. However, if financial institutions extend loans at an LTV ratio exceeding the prescribed threshold*, additional capital must be maintained.</td><td colspan="2">LTV limit at 80%</td></tr>
<tr><td>3rd and subsequent contract</td><td colspan="2">LTV limit at 70%</td></tr>
</table>

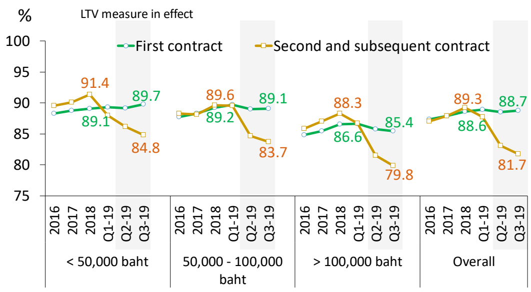
Note: * (1) If the collateral value is less than 10 million baht, the LTV thresholds for low- and high-rise units are set at 95 and 90 percent, respectively. (2) If the collateral value is 10 million baht or higher, the LTV thresholds of both low- and high-rise units are set at 80 percent.
Source: Bank of Thailand.

[16] First-time homebuyers (servicing one mortgage) with property value not exceeding 10 million baht stood unaffected by the revision.

This was reflected by a decline in the average LTV ratio from 89.3 percent in 2018 to 81.7 percent in 2019Q3. Meanwhile, the first-contract borrowers were not affected as they could still borrow out a large portion of collateral value. For these loans, the average LTV ratio stayed high at 88.7 percent **(Chart 3.1)**, suggesting that real-demand buyers stood unaffected from the measure. Furthermore, the proportion of new mortgage contracts with high LTV ratio (exceeding 90 percent) fell from 47 percent in 2018 to 43 percent.

Still, borrowers' debt serviceability continued to be fragile, as seen from the average loan-to-income (LTI) ratio of new mortgage contracts and the mortgage debt service ratio (M-DSR) that remained high especially for borrowers with monthly income of less than 50,000 baht. Looking ahead, the sluggish growth outlook could put a drag on household income. Thus, financial institutions should continue to place emphasis on debt serviceability in the loan approval process going forward.

Chart 3.1 Average LTV ratios of new mortgage loans, classified by borrowers' income group (baht per month) and the number of outstanding contracts



Note: The calculations cover only residential mortgage loans, excluding top-up loans, using the database on commercial banks' new loans with housing as collateral.
Source: Bank of Thailand.

(2) New mortgage loans posted a positive growth during the first nine months of 2019, with a slowdown in speculation and a robust growth in real-demand borrowing. This was reflected by the decline in the number of commercial banks' new mortgage contracts given as second or subsequent mortgages during the first nine months of 2019. The contraction in the number of such contracts was notably severe for condominiums, with a year-on-year decline of 31.8 percent, as investment and speculative demand tended to play a key role in this market. But for first-contract borrowers, who were mostly real-demand buyers, the number of new contracts still grew by 8.8 percent **(Table 3.2).** This was consistent with a fall in the share of commercial banks' new mortgage contracts for borrowers servicing two or more contracts in the first nine months of 2019, while the share of first mortgage contracts rose **(Chart 3.2)**. Indeed, the data on commercial banks' new mortgage loans suggested that most mortgage loans given as the second contract were largely for investment or speculation, considering the time lag between the first and second contracts. A case in point was the condominium market, where the second contract tended to have a time lag of less than a year from the first contract.

(3) Housing prices were poised to moderate, especially for condominiums, and this would allow real-demand buyers to purchase housing at a more reasonable price. Tightened credit standards, coupled with global and domestic growth slowdown, resulted in lower demand for real estate. This helped slow the acceleration in housing prices, which was the case for condominium prices that had surged in the periods before the introduction of the LTV measure largely due to speculative demand. Meanwhile, the prices of low-rise residences (both single-detached houses and townhouses) were expected to rise thanks to growing demand for low-rise residences **(Chart 3.3).**

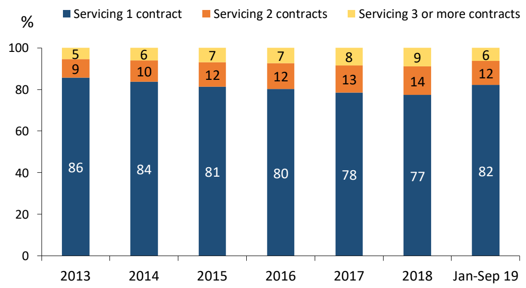
Table 3.2 Growth of the number of new mortgage loan accounts extended by financial institutions and commercial banks

%YoY	Growth of the number of new mortgage loan accounts extended by all financial institutions
Jan-Sep 19	14.0
- Low-rise	24.1
- High-rise	-4.8
Jan-Mar 19	27.5
Apr-Jun 19	5.1
July-Sep 19	11.5

%YoY	Growth of the number of new mortgage loan accounts extended by commercial banks during Jan-Sep 2019
1st contract	8.8
- Low-rise	13.5
- High-rise	-1.0
2nd and subsequent contract	-19.5
- Low-rise	-2.1
- High-rise	-31.8

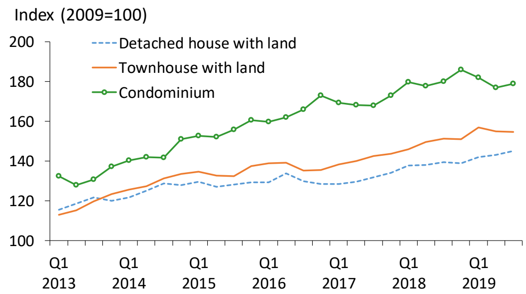
Source: Bank of Thailand.

Chart 3.2 Proportion of new mortgage loan accounts of the commercial banking system



Source: Bank of Thailand.

Chart 3.3 Price indices of residential real estates in Bangkok and its vicinity

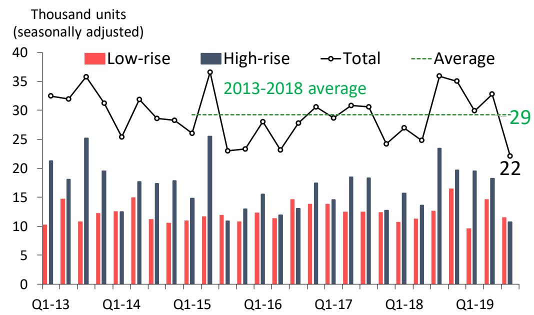


Note: BOT's price indices are based on the database on commercial banks' new loans. Residential real estate prices are calculated using hedonic regression, and land prices are calculated using weighted sum index (3-month moving average).
Source: Bank of Thailand.

(4) Developers made adjustments in response to demand slowdown by delaying new project launches. During the first nine months of 2019, the number of new residential units in Bangkok and its vicinity contracted by 8 percent from the same period last year, mainly due to fewer launches of new condominium projects **(Chart 3.4).** Moreover, **developers also adjusted their strategies by focusing on selling new projects that were made more affordable given consumers' purchasing power and targeting more on real-demand buyers.** For developers not listed in the Stock Exchange of Thailand (SET), their focus appeared to be in launching projects to target the low- to mid-tier customers (price per unit of less than 3 million baht), which were mostly real-demand buyers. Meanwhile, for developers listed in the SET, they launched fewer luxurious projects (price per unit above 10 million baht) and more high-end projects (price per unit of 5-10 million baht).

However, risks from oversupply remain present. Despite some slowdown from 2018, the number of new project launches in 2019 was still high compared to historical averages. Moreover, some locations have had a high number of unsold units since before the LTV measure was announced. Thus, risks from this front continue to warrant close monitoring in the periods ahead.

Chart 3.4 New residential units launched in Bangkok and its vicinity



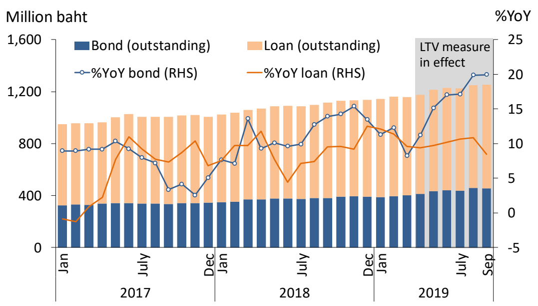
Sources: AREA and Bank calculations.

With regard to funding activities, **real estate developers continued to raise more funds notably via bond issuances.** As of September 2019, developers' bonds outstanding expanded at a high rate of 19.9 percent from the same period last year. Meanwhile, pre-finance loans still posted a high growth rate of 8.4 percent, despite some moderation from the previous year **(Chart 3.5)**.

Meanwhile, the quality of pre-finance loans remains stable overall, but

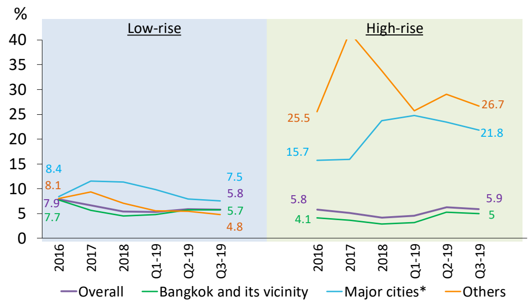
there continues to be a need to monitor the quality of pre-finance loans of high-rise developers in major cities[17] and other provinces, whose NPL and SM ratios have been high since before the LTV measure took effect (Chart 3.6).** The softened outlook for foreign and domestic demand along with economic slowdown could exert additional pressure on loan quality of some developers and those focusing on certain locations, especially for condominium developers already facing high levels of unsold units.

Chart 3.5 Real estate companies' financing



Source: Bank of Thailand.

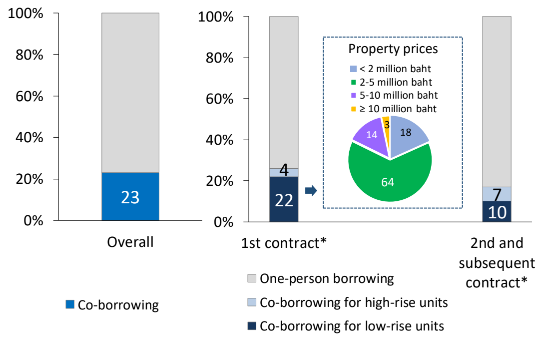
Chart 3.6 Loan quality of real estate businesses (the ratio of SMs and NPLs to total loans), classified by type of housing and area



Note: * Major cities include Chiang Mai, Chonburi, and Phuket.
Source: Bank of Thailand.

Following the implementation of the LTV measure, the BOT continued to monitor the situation and receive opinions and suggestions from all stakeholders. **On 15 August 2019, the BOT decided to relax the measure with regard to the counting of the number of mortgage contracts for co-borrowers who were not registered as owners of the property. This was aimed to mitigate the impact on co-borrowers and allow them to be able to acquire loans in a more appropriate term.**[18] The reasoning was that these co-borrowers were usually not in the high-income group and often borrowed with the sole purpose of helping the main borrowers to be able to acquire loans from financial institutions. According to the data on new mortgage loans given in 2018, co-borrowings were mostly for first-contract mortgage loans, accounting for 26 percent of all first-contract mortgage loans. In addition, most co-borrowings were for low-rise residences with value of 2-5 million baht **(Chart 3.7)**.

Chart 3.7 Proportion of new mortgage loan accounts with co-borrowing in 2018



Note: * The calculations are based on the database on commercial banks' new loans with housing as collateral.
Source: Bank of Thailand.

Toward the end of 2019, the government also introduced additional measures to support home ownership, especially for low-income earners. This was consistent with BOT's intended objectives of the LTV measure in preventing investment and speculative demand from having a negative impact on real-demand buyers. Key measures from the government included: (1) the personal income tax deductions for the actual paid value (maximum of 200,000 baht) for first-home buyers with property

[17] Major cities include Chiang Mai, Chonburi, and Phuket.

[18] If borrowers are not registered as owners of the property, they are treated as if they are not borrowers of that contract.

value under 5 million baht[19]; (2) the reductions on transfer and mortgage fees for residences worth up to 3 million baht to 0.01 percent to reduce expense burden for the purchase of residences worth up to 3 million baht[20]; and (3) the "property down payment subsidy" program, where the government offered a 50,000-baht cashback to help reduce burden on down payments for the first 100,000 applicants, whose mortgage loans must be approved and processed during 27 November 2019 and 31 March 2020.[21]

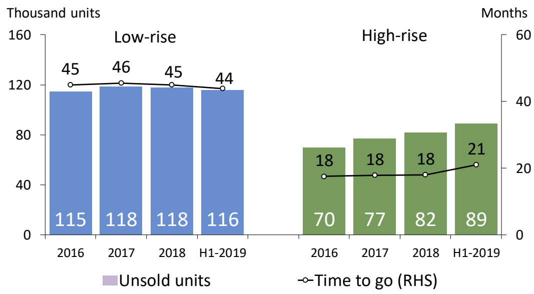
3.2 Risks to the real estate sector in the periods ahead

Although the possibility of massive price correction decreases in line with reduced speculation, there continue to be several risk factors for the real estate sector going forward. **These include risks from oversupply, which could affect developers' financial positions and liquidity, as well as rollover risks.**

3.2.1 Outlook for oversupply

Risks from oversupply continue to be present, especially for condominiums, as some locations have already had a high number of unsold units since before the LTV measure took effect and also face a drag from both foreign and domestic demand. During the first nine months of 2019, the value of funds transferred for condominium purchases by non-residents contracted by 34.6 percent from the same period last year. Meanwhile, demand from Thai residents also weakened given the domestic economic slowdown and borrowers' adjustments after the LTV measure took effect. **Moreover, adjustments of condominium supply would take longer than the low-rise segment. Indeed, the combination of demand and supply factors caused the rise of unsold units in 2019H1, and condominium developers would take longer to unload their stocks (Chart 3.8).**

Chart 3.8 Unsold units and time-to-go periods for Bangkok and its vicinity, classified by type of housing



Sources: AREA and Bank of Thailand.

In comparison, low-rise developers are expected to be able to adjust better than condominium developers. That is, low-rise developers would be able to adjust in response to the softened demand outlook as they are able to adjust new project launches in a timely manner. The reason is that low-rise residences take a relatively short amount of time to construct and demand for low-rise residences has been relatively stable over the years. Unlike low-rise residences, condominiums take longer to construct and it is not possible to pause construction halfway. Thus, condominium developers have to launch new projects gradually and continuously, making it more difficult for condominium supply to adjust.

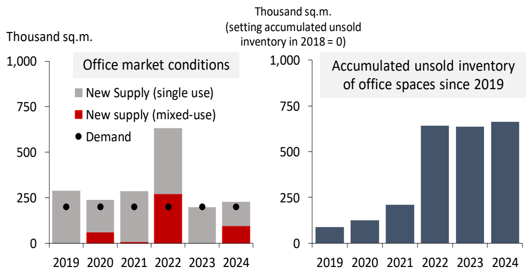
[19] Buyers are entitled to tax deductions for the actual paid value not exceeding 200,000 baht for the 2019 tax year. The loan contracts must be for first homes (condominium or houses with land) worth up to 5 million baht, where payments for the purchase and ownership transfers were done during 30 April and 31 December 2019.

[20] The transfer and mortgage fees were previously at 2 and 1 percent, respectively. The measure is effective from 2 November 2019 until 24 December 2020.

[21] Eligible applicants must have assessable income of less than 1.2 million baht in 2018, and loan requests must be for the purchase of new homes (I.e. not for refinancing), which are already constructed and sold directly by developers.

With regard to the commercial real estate market, risks of oversupply for the office segment are expected to rise in the next five years. Supply of office spaces is expected to surge especially in 2022, with an increase of over 600,000 square meters of new supply launched to the market, partly due to new mixed-use projects.[22] Assuming that annual demand for office spaces remains close to the historical average of about 200,000 square meters, unsold units of office spaces could stay high from 2022 onwards **(Chart 3.9).**

Chart 3.9 Market conditions and accumulated unsold inventory of office spaces in Bangkok and its vicinity



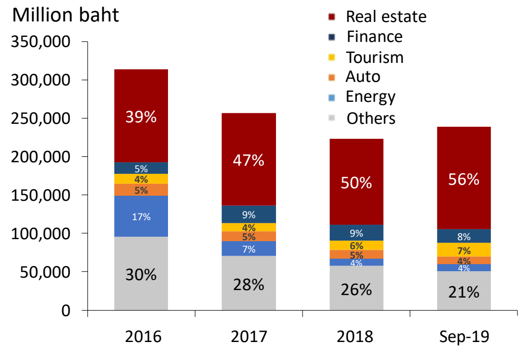
Note: (1) The calculations are based on 13 large mixed-use projects with project value higher than 10 billion baht, using data as of 2019Q2. (2) New supply of office spaces in 2019-2024 is estimated by CBRE.
Sources: CBRE and Bank calculations.

Looking ahead, if developers have to take longer to unload their stocks of unsold units, especially condominiums, some developers' financial positions and liquidity could be at risk.

3.2.2 Risks to financial positions and liquidity of some developers and their impact on rollover risks

Real estate developers have been raising more funds via the bond market, particularly by issuing non-investment grade and unrated bonds. These bonds are usually issued by companies with high leverages or operating losses. As of September 2019, the outstanding of non-investment and unrated bonds issued by developers totaled 133,712 million baht[23], accounting for 56 percent of all non-investment grade and unrated bonds in the corporate bond market. This was an increase of 39 percent from end-2016 **(Chart 3.10).**

Chart 3.10 Non-investment grade and unrated bonds outstanding, classified by sector of issuers



Source: Office of the Securities and Exchange Commission.

Looking ahead, demand for Thai real estates is poised to decline in line with the sluggish outlook for economic growth at home and abroad, while oversupply would continue to pose a concern. These factors could put further pressure on financial positions and liquidity of some developers—especially those already having a high number of unsold units, those relying on foreign and speculative demand, and those with vulnerable financial positions (e.g. having a low interest coverage ratio). In addition, if these developers raise funds via the bond market, this could also mean an increase in rollover risks. In particular, non-investment grade and unrated bonds issued by developers maturing in 2021 totaled 73,797 million baht, or 25 percent of all bonds issued by developers

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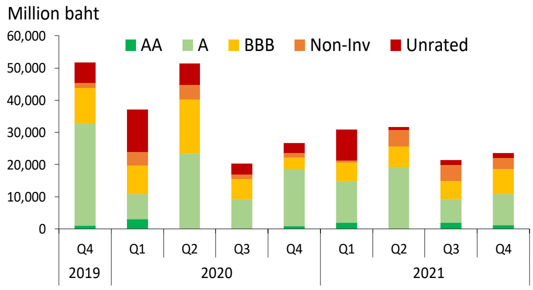
[22] Mixed-use projects are real estate projects that combine multiple uses of land or buildings, mostly involving a mix of residential and commercial real estates.

[23] With regard to performances of developers issuing non-investment grade and unrated bonds, 80 percent of these companies were either highly leveraged or faced operating losses, which affected their debt serviceability (as reflected from the debt-to-EBITDA ratio, the interest coverage ratio (ICR), and operating cashflows).

maturing in 2021 **(Chart 3.11)**, which was rather high. Thus, if developers who issue non-investment grade and unrated bonds are unable to rollover matured bonds, there could be a severe impact on investors' confidence on bonds issued by other developers, which in turn could lead to a broad-based rise in funding costs for real estate businesses in the bond market.

Chart 3.11 Maturity dates of real estate companies' bonds, classified by credit rating



Source: Office of the Securities and Exchange Commission.

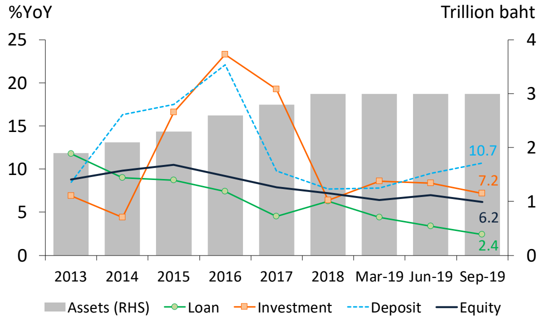
Going forward, the BOT and other related agencies will continue to monitor the impact of the LTV measure, as well as developments and adjustments in the real estate sector. Assessments of risks related to the real estate sector will also be conducted, especially risks associated with oversupply and developers issuing non-investment grade and unrated bonds. The aim is to have policy measures ready to cope with emerging risks in a proper and timely manner, as well as to allow the real estate sector to adjust smoothly to a more balanced condition amid the slowing economic growth both at home and abroad.

Chapter 4: Key supervisory developments to safeguard against risks from savings cooperatives

The search-for-yield behavior via saving cooperatives continues to persist. Assets of savings cooperatives kept growing at a high rate, despite moderating somewhat from the past years. Meanwhile, the interconnectedness within the savings cooperatives system increased along with growth in mutual lending and deposit-taking among savings cooperatives, which could serve as an important channel of shock propagation. So, the government and relevant agencies need to expedite the ongoing efforts to upgrade the supervision of cooperatives to keep up with their increased systemic importance. Efforts will also be needed to speed up the enactment of the ministerial regulations accompanying the Cooperatives Act, particularly those related to investment, credit and liquidity risk management, indebtedness of households that are cooperatives' members, as well as governance. Looking ahead, there continues to be a need to monitor savings cooperatives, especially those with liquidity shortage, which could face additional pressures given the subdued economic outlook.

Despite their moderated asset growth, saving cooperatives continued to expand investment in securities at a high rate. This was because there appeared to be substantial capital inflows into savings cooperatives both in the form of members' shares and deposits, in pursuit of higher returns compared to those of bank deposits. As of September 2019, savings cooperatives' total assets stood at 3 trillion baht, growing by 4.8 percent from the same period last year. This was a moderation from the growth of 6 percent in 2018. Meanwhile, members' deposits and equities continued to grow at high rates of 10.7 and 6.2 percent from the same period last year, respectively. These growth rates were similar to those recorded in 2017 and 2018, and were considered high relative to the growth of commercial banks' deposits during the same period of only 5.2 percent. This reflected that savings cooperatives' members continued to search for yield by depositing and investing funds in the saving cooperatives system **(Chart 4.1).**

Chart 4.1 Growth in assets and liabilities of the savings cooperatives system



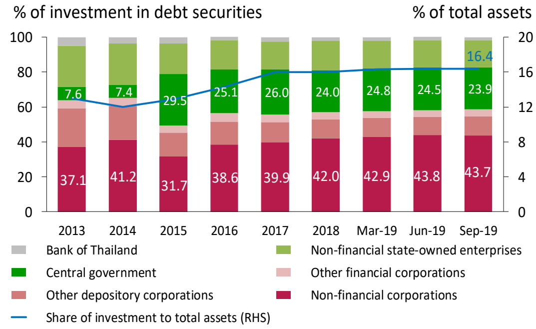
Sources: Cooperative Auditing Department and Bank calculations.

Substantial growth of members' deposits and equities, which outpaced the growth in loan extension of only 2.4 percent, led to excess liquidity for several savings cooperatives. **In particular, these surplus cooperatives**[24] **then used the excess liquidity to invest in securities to obtain higher returns for their members**. Given the low levels of government bond yields, **savings cooperatives would likely reduce their holdings of government**

[24] Surplus cooperatives are those with the sum of deposits and members' equity exceeding total loans extended to members.

bonds and increase their investment in corporate bonds to enhance returns (Chart 4.2).

Chart 4.2 Composition of investment in debt securities by the savings cooperatives system



Sources: Cooperative Auditing Department and Bank calculations.

Most of savings cooperatives' investment in securities remained in high-quality bonds.[25] This was in accordance with investment regulations that allowed savings cooperatives to invest only in low-risk debt securities, including securities issued by the government, state-owned enterprises, financial institutions, and corporate bonds with good credit ratings (A- or above). While members' deposits and shares kept growing, savings cooperatives were unable to increase lending to the same extent. Thus, savings cooperatives had to seek for returns elsewhere to meet members' expectations, such as investment in longer-term securities. If board members and employees of savings cooperatives did not possess sufficient knowledge and understanding of investment risks and risk management, investment decisions might be made based solely on high returns, thereby ignoring or underpricing risks. **So, there remains a need to ensure that savings cooperatives have board members and personnel who have knowledge and expertise in finance and investment risk management. Ceiling should also be set for savings cooperatives' investment in securities, so as to limit the impact on members' deposits and equities in the event of investment loss.**

Moreover, savings cooperatives played a key role in providing loans to the general public who were members, accounting for 16 percent of households' total borrowings from formal sources as of 2019Q3. Savings cooperatives were ranked the third most-used source of loans after commercial banks and specialized financial institutions (SFIs). **Such demand for loans caused deficit cooperatives[26]**—or those whose loan demand from members exceed their members' shares and deposits—**to rely on deposits and loans from fellow savings cooperatives or other financial institutions.** As of September 2019, such deposit-taking and borrowing amounted to around 30 percent of deficit cooperatives' total assets and equities **(Chart 4.3)**, a high ratio comparable to that of the same period last year. If these deficit cooperatives do not have proper risk management, especially during the economic slowdown, they could face rollover risks and higher funding costs going forward, as well as problems in giving money back to depositors in the event of massive cash withdrawal by members.

These savings cooperatives should thus maintain a certain level of liquid assets as a buffer to support members' withdrawal of deposits. In addition, the supervision of savings cooperatives should include rules that set limits on debt accumulation of savings cooperatives and appropriate conditions for loan extensions to members. This might involve, for example, setting the limit on

[25] As of September 2019, savings cooperatives' investment in bonds was 83 percent of their total investment in securities.

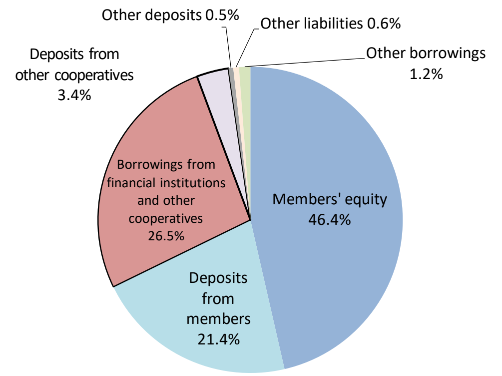
[26] Deficit cooperatives are those with the sum of deposits and members' equity below total loans extended to members.

loan maturity, the maximum age of borrowers, and the debt-to-income ratio. The practice of "debt rollover", where a new loan is generated for the purpose of repaying an existing loan, should also be discouraged to reduce the risk build-up in the savings cooperatives system.

Furthermore, sustained growth of mutual deposit-taking and borrowing among saving cooperatives[27] **also reflected the increased interconnectedness within the savings cooperatives system (Chart 4.4).** As of September 2019, savings cooperatives' mutual deposits and loans totaled 395 billion baht, growing by 8.6 percent from the same period last year.

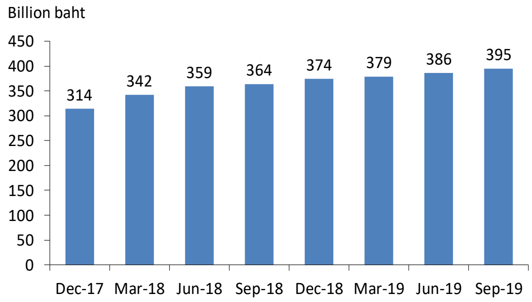
Given the increased interlinkages within the savings cooperatives system via mutual deposit-taking and lending, risks stemming from one cooperative's financial position and liquidity could potentially undermine the stability of the savings cooperatives system as a whole. An issue could arise from a savings cooperative that lacked good governance and management. For instances, the cooperative might lend without due consideration on borrowers' debt serviceability, or lack good governance in lending or investing in projects that involve corruption or offer special benefits to some groups of individuals. Such incident could lead to defaults and the money lent or invested might not be fully recovered, which in turn would affect performances of the cooperative and inflict damage on members' equities and deposits. Apart from causing liquidity shortage for that cooperative, this could trigger a chain effect on other cooperatives that are its creditors, potentially damaging confidence in the cooperatives system as a whole.

Chart 4.3 Sources of funds of deficit savings cooperatives (as of September 2019)



Note: (1) *Other borrowings* include borrowings from government, corporates, and state-owned enterprises.
(2) *Other liabilities* include accrued interests and other forms of liabilities.
Source: Cooperative Auditing Department and Bank calculations.

Chart 4.4 Mutual deposits and borrowings among savings cooperatives*



Note: * The amount shown includes mutual deposits and borrowings among savings cooperatives, conducted both directly among themselves and indirectly through federations of savings cooperatives.
Source: Cooperative Auditing Department and Bank calculations.

Consequently, there is an urgent need for all relevant regulators to expedite the enactment of the ministerial regulations accompanying the Cooperatives Act, especially for the parts related to investment, management of credit and liquidity risks, indebtedness of cooperatives' members, and governance *(see Box 3 for more details).* **Also, there remains a need to monitor savings cooperatives especially those with liquidity shortage, which could face**

[27] There are two types of mutual borrowing and deposit-taking among savings cooperatives: (1) direct borrowing and deposit-taking among savings cooperatives; and (2) indirect transactions via federations of savings cooperatives, which serve as key intermediaries that take funds from surplus cooperatives to lend to deficit cooperatives.

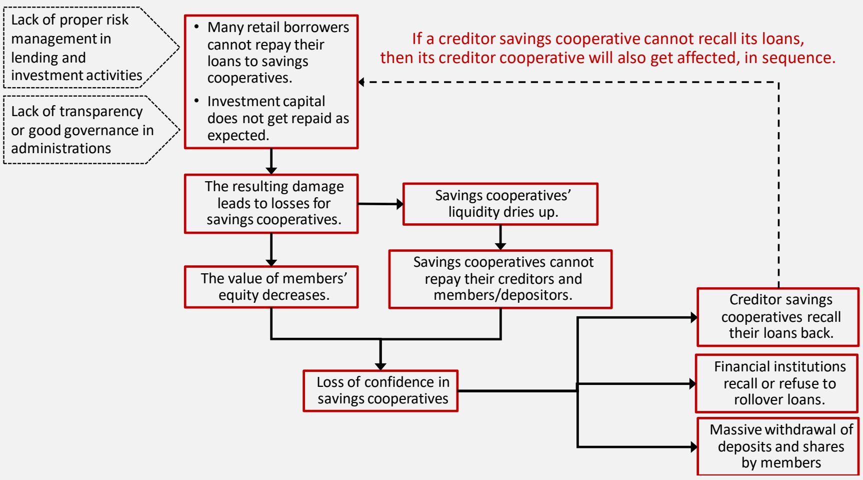
additional pressures amid the economic slowdown, as well as to encourage savings cooperatives to report data needed for supervision in an accurate, comprehensive, and timely manner. This will enhance the supervision of the savings cooperatives system, and will also help reduce the possibility of having losses that could propagate within the cooperatives system and spill over to other financial sectors.

Box 3: The new Cooperatives Act: Key supervisory developments to safeguard against major risks in the savings cooperatives system

Savings cooperatives and credit union cooperatives are important economic units that have been with the Thai society for a long time. They have continuously played an increasing role in providing deposit-taking and lending services to their members, which in turn improve members' living standards, in line with the missions and the underlying philosophy of cooperatives. Consequently, millions of members have close relationships with cooperatives—as owners of cooperatives, depositor-creditors, and debtors. In addition, these cooperatives also lend and take deposits among themselves.

In the recent periods, mutual lending and deposit-taking transactions among savings cooperatives have continued to expand, reflecting **the increased interconnectedness among savings cooperatives, which could serve as an important channel of shock propagation**. If debtor cooperatives suffer significant loss from lending or investment due to lack of proper risk management or good governance, this would affect their operations and/or liquidity, making them unable to repay debt back to their creditor cooperatives. The creditor cooperatives would thus inevitably be affected, possibly triggering massive withdrawal of members' deposits and shares for all related cooperatives and affecting the cooperatives system as a whole **(Chart 1)**. **The ongoing efforts to expedite the enactment of the new Cooperatives Act to enhance cooperatives' operations and supervision would ensure proper risk management, especially for major risks including credit risks[28] and liquidity risks,[29] as well as good governance. This would help mitigate risks in the cooperatives system and cooperatives' members, as well as build confidence to the cooperatives system and the financial system as a whole. This is also considered an important stepping stone in upgrading supervisory standards for financial intermediaries to support growth of savings cooperatives, which have doubled in size over the past 10 years.**

Chart 1 Shock transmission mechanisms in the savings cooperatives system
(in the event that savings cooperatives face difficulties due to credit and liquidity risks)



[28] *Credit risks* refer to the risks arising from the fact that (1) debtors are unable to comply with terms in their loan contracts or (2) their credit quality has deteriorated to the point that results in low likelihood of debt repayment.
[29] *Liquidity risks* refer to the risks arising from savings cooperatives' inability to repay loans and obligations in the short term, due to their inability to convert assets into cash or source enough funds in the short term.

Following the enactment of the Cooperatives Act (No.3) B.E. 2562, which became effective on 19 May 2019, **the law authorizes the Registrars of the Cooperatives (Director-General of the Cooperative Promotion Department) to supervise all cooperatives, where supervision of financial cooperatives, namely savings and credit union cooperatives, will be separated from other cooperatives.** Ministerial regulations will be issued specifically to cover the operating and supervisory rules for savings and credit union cooperatives within two years after this Act becomes effective. Currently, the Ministry of Agriculture and Cooperatives is in the process of drafting the ministerial regulations in consultation with the Ministry of Finance, the BOT, and the SEC to propose to the Cabinet for consideration in accordance with the legislative process. **The draft ministerial regulations contain rules related to supervision of credit and liquidity risks, as well as governance rules for savings and credit union cooperatives.** Key principles and rationales of the regulations are as follows.

Regulations	Principles and rationales
1. Regulations related to credit risks	
Loan and credit extension	In order to prevent savings cooperatives from having excessive credit risks to the point that could lead to severe losses, and to enhance credit risk management and prevent borrowers' over-indebtedness, the requirements are as follows: (1) The number of installments and the ceiling for the debt-to-income ratio are set to prevent borrowers from borrowing too much or being indebted for too long given their ability to service debt. (2) Savings cooperatives should have loan or credit-granting practices that are appropriate and transparent from the beginning to the end, follow the principles of internal control and proper risk management, and undergo regular reviews.
Deposit-taking and investment	In order to prevent savings cooperatives from depositing funds with other individuals or investing in high-risk assets with a potential loss of capital, which could lead to loss for their members, savings cooperatives are allowed to deposit or invest only in certain types of assets as stipulated by law. In addition, in order to make savings cooperatives focus on providing services to their members according to their mandates, their total deposits and investment in other cooperatives and financial institutions, when compared to their total share capital and reserves, must not exceed the threshold specified by law.
Concentration of assets	In order to limit an excessive exposure to a single savings cooperative or juristic person (debtor) via loans, deposits, or investment, which could have a severe impact to savings cooperatives in case of losses, the ceiling is set on the proportion of transactions per debtor/cooperative/juristic person to total share capital and reserves of savings cooperative not to exceed the threshold specified by law.
Asset classification and reserve maintenance	In order to ensure sufficient reserves as a buffer in case of loss from depreciation of assets, there are therefore rules regarding asset

Regulations	Principles and rationales
	classification and reserve requirement for debtors, as well as depreciation of investment and non-performing assets.
2. Regulations related to liquidity risks	
Deposit-taking, borrowing, and creating obligations	In order to strengthen the stability of savings cooperatives by prohibiting them from incurring debt beyond their future debt serviceability and to reduce the chance of having liquidity problems due to concentration of capital resources with large creditors, the requirements are set as follows: (1) The ratio of total obligations via borrowing and deposit-taking from non-member individuals to total share capital and reserves should not exceed the threshold specified by law. (2) The ratio of total deposits and loans from a single cooperative or federation of cooperatives to total share capital and reserves should not exceed the threshold specified by law. In addition, savings cooperatives are required to prove the identity of depositors and lenders in accordance with the rules of the Anti-Money Laundering Office (AMLO) and the ceiling is also set for deposit rates in order to limit the amount of deposits seeking returns in the cooperatives system.
Asset management and maintenance of liquid assets	In order to ensure that cooperatives have sufficient liquid assets (i.e. which can be easily converted into cash without significant loss in value) to return to depositors, there is a requirement to maintain the ratio of liquid assets to total deposits above the threshold specified by law.
3. Governance rules	
Governance rules	In order to ensure that cooperatives have qualified board members and managers with specified roles and responsibilities as well as good governance in managing cooperatives, the rules are set for the followings: (1) Specification on qualifications and prohibitions of board members and managers (2) Specification on roles and composition of the committee and the sub-committee (3) Management of cooperatives with good governance such as information disclosure, prevention of conflict of interests, etc.

In light of this amendment to the Cooperatives Act and the accompanying regulations on cooperatives supervision, **all related parties—the government, savings cooperatives themselves, as well as the general public—should cooperate in driving and supporting the enactment and implementation of the regulations. Such collaboration would strengthen savings cooperatives and ensure proper risk management, which in turn would build resilience for the cooperatives system. This will prove beneficial for cooperatives' members and the overall economic and financial system of the country in the long term.**

Chapter 5: The search-for-yield behavior and its implications on the underpricing of risks

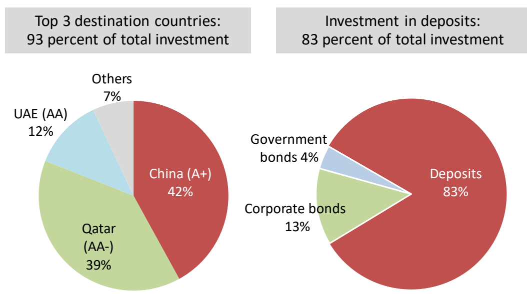
In a prolonged low interest rate environment, the search-for-yield behavior continues to be seen in several areas. Such behavior often lacks comprehensive risk assessment or involves the underpricing of risks, both in terms of investment and financing. For the former, mutual funds, insurance companies, savings cooperatives and households increased their investment in risky assets in order to enhance returns. At the same time, certain business sectors were found to raise more funds particularly via non-investment grade and unrated bonds, most of which were held by individual investors who might not be aware of all the risks involved with such products. Moreover, large conglomerates raised more funds via bond issuances, and therefore leading to a higher degree of concentration among large conglomerates in the domestic bond market. As the business and financial structures of these large conglomerates become more complex, the task of assessing their risks has become more difficult as well and warrants close monitoring and collaboration among regulators.

5.1 The search-for-yield behavior in the uses of funds

The prolonged low interest rate environment encourages several players such as mutual funds, insurance companies, savings cooperatives[30] and households to invest more in risky assets in order to enhance returns. This process, however, is often undertaken without comprehensive risk assessments and usually involves the underpricing of risks.

For mutual funds, the search-for-yield behavior continues to persist, with the main risks being investment concentration risks especially for foreign investment term funds (FIF term funds). These funds typically invest abroad to diversify their assets, focusing on high-quality and short-term assets, and often fully hedge their exchange rate exposures. Despite having limited credit, market, and liquidity risks, **FIF term funds' investment abroad is often concentrated in some countries, assets, and issuers**. As of September 2019, 93 percent of term funds' investment was in the top three countries namely China, Qatar, and the United Arab Emirates. Moreover, 83 percent of terms funds' investment was in bank deposits **(Chart 5.1)**, and 74 percent was invested in assets issued by top-ten issuers. **It should be noted, also, that almost all FIF term funds are for retail investors.**

Chart 5.1 Investment concentration risks of term funds (as of September 2019)



Source: Office of the Securities and Exchange Commission.

Despite the high credit ratings of these issuers, countries, or securities, having a highly concentrated investment position implies that an incident that affects the invested securities negatively could incur significant losses to these

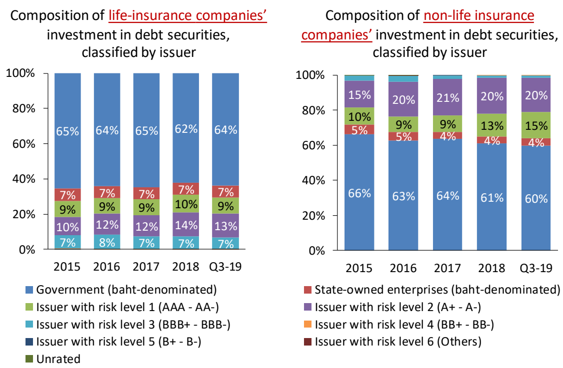
[30] Details of savings cooperatives' search-for-yield behavior can be found in *Chapter 4: Key supervisory developments to safeguard against risks from savings cooperatives*.

funds. Examples of such incidents might include a downgrade of an issuer, a counterparty, or a country that the fund has a concentrated position in, as well as a sharp drop in securities prices amid heightened volatilities in financial markets. Moreover, mutual funds that invest abroad tend to exhibit similar investment behavior, and therefore the resulting losses could potentially be broad-based. Therefore, investors should make efforts to understand these funds' investment policies and key risks that could affect the underlying assets before making an investment decision, and should also be careful to diversify their portfolios well. Meanwhile, the SEC has been supervising the mutual fund industry closely, and has strengthened its regulations to ensure that mutual funds' investment is properly diversified and investors receive comprehensive information disclosures for their decision making. This should, in turn, allow investors to select funds that are suitable to their risk tolerance *(see Chapter 6 for more details on the revision of regulations for term funds).*

Meanwhile, insurance companies continue to increase their investment in corporate bonds, compared to the focus on government bonds in the past. However, their investment remains concentrated in investment-grade bonds (Chart 5.2). With the prolonged low interest rates going forward, insurance companies are expected to continue their diversification away from government bonds and into a variety of assets, in order to enhance returns. For instance, they might invest in foreign bonds and securities, and thus expose themselves to additional types of risks including risks from volatilities in global financial markets and exchange rates.

Households also continue to increase their investment in risky assets. In particular, retail investors are the main investors of mutual funds, as well as non-investment grade and unrated bonds (Chart 5.3). Retail investors are also found to invest in riskier classes of mutual funds to enhance returns, including alternative investment funds and deposit-like bond funds such as daily fixed-income and term funds.

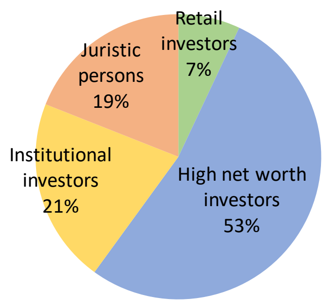
Chart 5.2 Composition of life- and non-life insurance companies' investment in debt securities



Source: Office of Insurance Commission.

Chart 5.3 Non-investment grade and unrated bonds outstanding, classified by investor type

Non-investment grade and unrated corporate bonds outstanding totaled 238,719 million baht (as of September 2019).



Source: Office of the Securities and Exchange Commission.

Amid the uncertain global and domestic economic outlook and more volatile asset prices, investment returns could be significantly affected, particularly for investment in securities with high risks and low liquidity. As a result, those who increase their investment in risky assets should ensure appropriate asset allocation by diversifying their portfolios and undertaking comprehensive risk assessment.

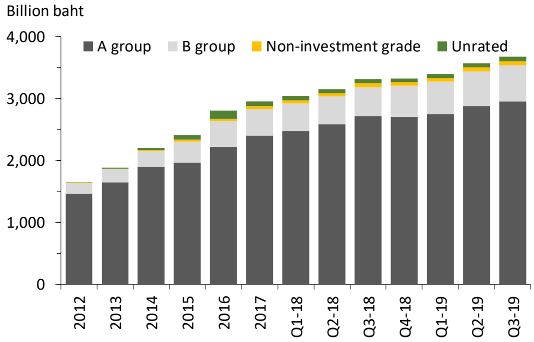
5.2 The search-for-yield behavior in the sources of funds

On the other hand, the prolonged low interest rate environment encourages firms to raise their leverage, due to low funding costs notably for issuing bonds.

Businesses continue to raise funds via the bond market (Chart 5.4), with notable growth in non-investment grade and unrated bonds in the recent periods. For these bonds, their issuers are concentrated among real estate developers, with securities companies serving as underwriters **(Chart 5.5)**. **Moreover, there has also been a growing trend for issuances of complex securities that are difficult for investors to assess risks, such as perpetual bonds.**

Non-investment grade, unrated, and perpetual bonds are mostly held by retail investors, who might not have access to comprehensive information on all risks related to the products. The SEC thus deems it necessary to strengthen the guidelines regarding the issuance and the offering processes of bonds. Some parts of the regulations have already been revised, including those related to the offering process and data disclosure. The aim is to ensure that investors receive adequate information and investment advice suitable to their risk tolerance *(see Chapter 6 for more details on the supervision of the bond market to enhance investor protection).*

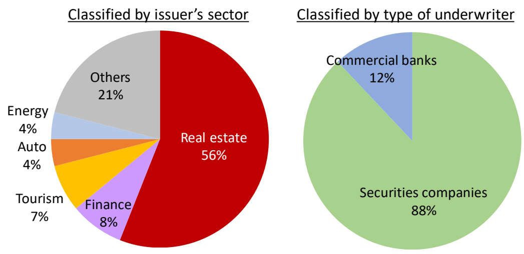
Chart 5.4 Corporate bonds outstanding, classified by credit rating



Source: Thai Bond Market Association (data covering only registered bonds).

Chart 5.5 Non-investment grade and unrated bonds outstanding, classified by issuer's sector and type of underwriter

Non-investment grade and unrated corporate bonds outstanding totaled 238,719 million baht (as of September 2019).



Source: Office of the Securities and Exchange Commission.

Meanwhile, large conglomerates[31] have been expanding their businesses and financing activities[32] via bond issuances in a growing amount, benefitting from their decreased costs in issuing bonds.

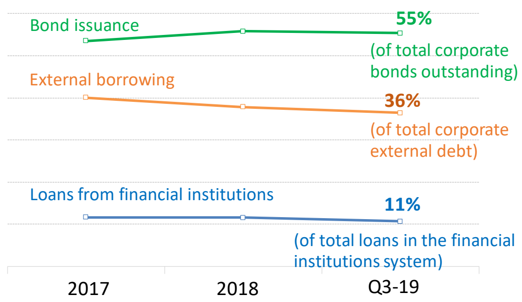
As issuers in the bond market, large conglomerates accounted for as much as 55 percent of all corporate bonds outstanding (Chart 5.6), which has led to a high degree of concentration risks in the bond market. If certain conglomerates were to be hit by a severe shock, overall

[31] Large conglomerates are defined as those with the 20 highest total debt, as of June 2019, from the following sources: (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.

[32] As of 2019Q3, large conglomerates recorded a total debt outstanding of 4.9 trillion baht via three channels: (1) 2.2 trillion baht via corporate bonds (44 percent of their total borrowing), most of which had credit ratings of A- or above; (2) 2.0 trillion baht via loans from financial institutions (40 percent of their total borrowing); and (3) 0.77 trillion baht via external borrowing (16 percent of their total borrowing). Latest external debt data were as of 2019Q2.

funding costs could rise sharply and abruptly, which could disrupt funding activities of other businesses.

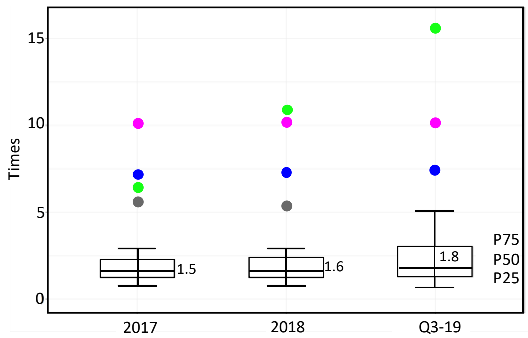
Chart 5.6 Large conglomerates' funding compared to the size of each funding source



Note: The latest observation shown for corporate external debt was as of 2019Q2.
Sources: Bank of Thailand, Thailand Securities Depository Co., Ltd., custodians, securities brokers, and Thai Bond Market Association.

Moreover, the debt-to-equity ratio of large conglomerates has increased in overall, with some of these conglomerates showing an upward trend in debt growth. As of 2019Q3, the median debt-to-equity (D/E) ratio[33] stood at 1.8, increasing from 1.6 in 2018 **(Chart 5.7)**.

Chart 5.7 Debt-to-equity (D/E) ratios of large conglomerates



Note: The box-and-whisker plot shows the distribution of D/E ratios of large conglomerates where: (1) the boxes show P25, P50, and P75, which represent the 25th, 50th, and 75th percentiles of the data, respectively; (2) the vertical lines show the data ranges after outliers are removed; and (3) the circles above the boxes represent outliers.
Sources: Office of the Securities and Exchange Commission and Bank calculations.

As large conglomerates continue to raise funds and expand their businesses at home and abroad, such developments have led to the following facts: (1) Assessing the risks of these conglomerates in a comprehensive manner has become more difficult, due to the increased complexity of their organizational and financial structures. (2) For the domestic loan and equity markets, risks have become increasingly concentrated in these conglomerates. Should financial institutions and investors fail to conduct a proper risk assessment or do not sufficiently price in the risks in their lending decision, the returns might not be enough to compensate for the ensuing risks of their lending or investment activities. It should be emphasized that prudent oversight on this front requires close collaboration among regulators. Currently, the BOT is in the process of revising its guidelines on the assessment of credit concentration risks. The aim is to ensure that financial institutions conduct proper risk assessment and maintain adequate capital buffers against such risks *(see Chapter 6 for more details on the revision of guidelines for the assessment of credit concentration risk, according to the Supervisory Review of Capital Adequacy (Pillar 2))*.

Going forward, as interest rates are poised to stay low to support economic recovery, the search-for-yield behavior is likely to persist in several areas, both in investment and financing activities. This could lead to other types of risks, especially the underpricing of risks and the risks due to concentrated investment positions. The regulators will collaborate in monitoring these developments closely and safeguard against these risks, so as to prevent the build-up of vulnerabilities that could undermine financial stability.

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[33] Each conglomerate's D/E ratio is calculated by averaging D/E ratios of all firms in the conglomerate, weighted by debt outstanding.

Chapter 6: Key supervisory developments in 2019 and the plans going forward

Thailand's overall financial stability remains sound, despite some build-up of risks in certain areas. The regulators have been monitoring developments and assessing the risks jointly, as well as collaborating closely to prevent a pocket of risks from escalating into a systemic concern[34]. In recent periods, important measures have been taken to address some pockets of vulnerabilities that could weigh on financial stability, such as households' fragile financial position, the growth in speculative demand in real estates, as well as the search-for-yield behavior that could lead to the underpricing of risks particularly from investment in mutual funds and bonds. **Meanwhile, the economic and financial environment has been dynamic, and the financial system has seen more diverse players, with more complexity and interconnectedness than ever before.** In such environment, there is a pressing need for regulators to collaborate in monitoring and coping with the risks that could undermine financial stability. **In this regard, the establishment of a formal mechanism to ensure interagency collaboration at a national level should help improve the effectiveness of financial stability oversight** *(see Box 4 for more details).*

Summary of key supervisory developments by the BOT, the SEC, and the OIC

1. Supervisory measures taken by the BOT

Key measures	Key developments in 2019	Plans for 2020 and going forward
(1) Measures to address household debt		
Guidelines for responsible lending for retail loans in order to address households' over-indebtedness Objective: To encourage financial institutions to grant loans by taking into account the risks that borrowers might not have enough funds to cover their costs of living (i.e. affordability risks). This is a consideration on top of credit risks that financial institutions typically consider.	- Issued a consultation paper for retail loan business, which aims to address households' over-indebtedness. The paper was released in August 2019 in order to get feedbacks from market participants and the general public.	- Encourage financial institutions to adopt the guidelines and track progress.

[34] This is in line with the assessment result of the Financial Sector Assessment Program (FSAP) during 2018-2019, which indicates that Thailand's financial sector supervision is highly efficient and on par with international standards and leading economies. On top of that, the assessor issues the following recommendations: (1) A supervisory framework for specialized financial institutions (SFIs) should be developed, in a way that is in line with the framework for commercial banks. (2) The supervisory framework for commercial banks should be applied to savings cooperatives as deemed appropriate. (3) The scope of macroprudential policy should be extended to other financial institutions, such as SFIs and finance cooperatives. Lastly, (4) an appropriate arrangement for establishing the Financial Stability Committee (FSC) should be considered.

Key measures	Key developments in 2019	Plans for 2020 and going forward
The rationale is to discourage borrowers from taking excessive debts beyond their need or ability to repay, which could have an impact on their standards of living.		
Standardizing the calculation of debt service ratio (DSR) and requesting financial institutions to report DSR data. Objective: To monitor financial institutions' credit underwriting standards, and to allow a more thorough assessment of debt serviceability by borrowers' types.	- Set a common standard for DSR calculation, in collaboration with commercial banks, specialized financial Institutions (SFIs), and non-bank financial institutions, as well as clarified the reporting guidelines for DSR data. - Commercial banks started reporting the standardized DSR data to the BOT starting in late 2019.	- Other financial institutions will gradually report the standardized DSR data to the BOT from 2020H2 onwards, depending on the readiness of each institution.
The Debt Clinic Program Objective: To assist people with delinquent credit card loans or uncollateralized personal loans by providing a one-stop service for debt restructuring.	- Expanded the scope to include debtors of 19 non-bank financial institutions (previously limited to debtors of 16 commercial banks). - Extended the eligibility criteria to include those with delinquent loans with only one creditor (previously limited to those with delinquent loans with two or more creditors). - Extended the eligibility criteria to include those having delinquent loans since before 1 January 2019 (previously limited to those with delinquent loans since before 1 April 2018).	- Extend the eligibility criteria to include debtors with pending court cases– expected to be effective in 2020Q1. - Extend the eligibility criteria to include debtors having delinquent loans after 1 January 2019. - Encourage financial institutions to assist debtors with good credit records who start to show signs of problems or miss payments. The purpose is to prevent debt defaults and to encourage the refinancing of credit card loans for borrowers with high potential or good credit records.

Key measures	Key developments in 2019	Plans for 2020 and going forward
(2) Measures for corporate loans		
Measures to assist SMEs in their debt restructuring[35] Objective: To encourage financial institutions to monitor their SME debtors closely and restructure debts for those who still have business potential. The aim is to allow these debtors to continue operating and revive their businesses in a timely manner, amid the pressure from the economic slowdown and high uncertainty.	-	- Request financial institutions to monitor their SME debtors and consider providing financial and liquidity support to those who still have business potential. This should be done quickly, as soon as there are signs of debt delinquency or in a pre-emptive manner, in order to ensure business continuity of these debtors. Examples of possible actions include extending working capital loans, lowering or waiving interests or fees, as well as relaxing the terms and conditions for debt repayment or restructuring. - Revise the BOT's regulation on debt restructuring, for financial institutions that restructure their SME debts between 1 January 2020 and 31 December 2021. Details are as follows: (1) Financial institutions can immediately classify non-NPL debtors as performing or stage 1, in case there is evidence that the debtors can meet the debt restructuring requirements. Moreover, such cases are to be considered as a pre-emptive debt restructuring, not restructuring of troubled debts. (2) Financial institutions can classify their NPL debtors as performing, if the debtors are able to repay their debts, based on the new restructuring contract, for three consecutive months or

[35] More details can be found at https://www.bot.or.th/Thai/FIPCS/Documents/FPG/2563/ThaiPDF/25630003.pdf.

Key measures	Key developments in 2019	Plans for 2020 and going forward
		installments, without having to wait for 12 months. (3) Financial institutions can classify their working capital loans that are additionally granted to the debtors as normal loans, if the debtors have sufficient cash flows for debt repayment. The purpose is to replenish their liquidity position in order to ensure business continuity.
(3) Measures for the real estate sector		
The macroprudential measure on mortgage loans (the LTV measure) Objective: To enhance financial institutions' credit underwriting standards, encourage households' financial discipline (by requiring them to save more for down payments), as well as curb speculation in the real estate market in order to support housing affordability for real-demand homebuyers.	- Revised the LTV measures, which took effect from 1 April 2019 onwards[36]. The key change is the imposition of stricter LTV limits for borrowers' second or subsequent mortgage contracts, and for properties valued at 10 million baht or above - On 15 August 2019, the BOT announced the relaxation of the LTV measure regarding the counting of contracts for co-borrowers who are not registered as owners of the properties used as collaterals.	- Monitor the impact, receive feedbacks from all stakeholders, and continue to assess the effectiveness of the LTV measure. The BOT stands ready to make adjustments if the measure is found to be too stringent or create excessive unintended consequences.
(4) Measures for large conglomerates		
Revision of the guidelines for commercial banks regarding the relaxation of supervision for large-exposure borrowers with business potential and strong financial position (single lending limit: SLL)[37]	- Debtors eligible for this relaxation are those who conduct businesses with strategical importance to national development, or whose businesses or investment are related to infrastructure projects.	-

[36] For more details, see https://www.bot.or.th/Thai/FinancialInstitutions/Publications/Pages/HousingLoan_Notification.aspx.
[37] For more details, see https://www.bot.or.th/Thai/FIPCS/Documents/FPG/2562/ThaiPDF/25620153.pdf.

Key measures	Key developments in 2019	Plans for 2020 and going forward
Objective: To support businesses that are vital in driving national development, as well as large infrastructure projects that need a large amount of funding, while preserving the stability of Thailand's financial institutions system.	- Criteria for the relaxation of SLL emphasize that commercial banks have stringent standards for governance and risk management, for instance: (1) The request for SLL relaxation has to be approved unanimously by the Board of Directors of commercial banks. (2) Commercial banks must calculate the level of capital add-on that is consistent with debtors' concentration. (3) Commercial banks must place importance on the data related to the interconnectedness and financial linkages of their debtors. This is to be used in assessing their risks and possible interactions, as part of the processes of credit analysis and financial position monitoring. - Applied to all commercial banks, except for retail commercial banks, with effect from 15 July 2019.	
Revision of the guidelines for the assessment of credit concentration risk, according to the Supervisory Review of Capital Adequacy (Pillar 2) Objective: To make sure that financial institutions have a prudent risk management process for credit concentration risk, and maintain an adequate level of capital that better reflects such risks.	- Revised the regulations regarding the calculation of capital add-on for credit concentration risk, from a formula-based to principle-based approach. Financial institutions are allowed to use their own calculation methods that fit their risk profiles and risk management. The BOT will then conduct a supervisory review on the	- The new regulation takes effect from 1 January 2020, and financial institutions are required, by June 2020, to assess their capital adequacy in order to cushion against credit concentration risks under the revised guideline and submit reports to the BOT. The BOT will then confirm the appropriateness of the risk management process and the capital

Key measures	Key developments in 2019	Plans for 2020 and going forward
	appropriateness of such calculation methods. - If exposed to an unacceptably high level of credit concentration risk, financial institutions must reduce their risk exposure or maintain capital at a level that is adequate for the level of risks. - Applied to commercial banks, branches of foreign commercial banks, finance companies, and credit fonciers.	adequacy assessment of each financial institution. - Going forward, the BOT will continue to monitor the implementation of the regulation by financial institutions via ongoing supervision.

2. Key supervisory developments by the SEC

Key measures	Key developments in 2019	Plans for 2020 and going forward
(1) Measures related to the bond market		
Guidelines for the supervision of the bond market to enhance investor protection[38] <u>Objective</u>: To enhance the operational standards of arrangers, as well as the issuance and offering for sale of debt securities, in order to ensure that investors receive adequate information and advice suitable to their risk tolerance.	- In August, the SEC Board and the Capital Market Supervisory Board approved the revision of the guidelines for the supervision of the bond market. The purpose is to enhance the efficiency of supervision and reduce fragilities in the ecosystem, while considering the ways to develop the bond market as one of the main funding channels in driving the economy forward. The hearing process was conducted, and the notification should be released in the beginning of 2020. Key details can be summarized as follows:	In order to ensure the continuity of implementation and the comprehensiveness of the plan, the SEC will do the following: - Closely monitor developments in the bond market and the impact of the regulations. - Utilize additional data in the supervision process, for instance, by disclosing the names of large-sized issuers and the top ten issuers of non-investment grade and unrated bonds. - Inspect the Thai Bond Market Association (ThaiBMA) with regard to its duties in supervising member institutions,

[38] Since May 2019, the SEC acknowledged the risk condition of the bond market and therefore has been monitoring the market and risk development, as well as analyze the overall system.

Key measures	Key developments in 2019	Plans for 2020 and going forward
	(1) Impose additional restriction on types of investors. For bonds sold via private placement to no more than ten investors (PP-Limited Offer), offering for sales can be done only to institutional investors, board members, executives, major shareholders, and subsidiaries of the issuing companies. Non-investment grade and unrated bonds can be offered to individuals and high net worth (HNW) investors only on a case-by-case basis. (2) Enhance protection for HNWs. Issuers must not be undergoing debt defaults or adjusting the reporting periods for submission of their financial statements. In addition, they also need to disclose further information, such as the intended use of funds, and give clear explanations on issuer-specific risks. (3) Improve bond factsheets so that they are concise with only key information included, reader-friendly, and helpful for comparison across securities. (4) Communicate the same expected standards for both securities companies and commercial banks. This applies to securities selection, data analysis, product screening, and services related to debt securities. (5) Set the operational standards for arrangers	monitoring market conditions, inspecting bond trading activities, as well as acting as a centralized platform for bond data and a central pricing agency.

Key measures	Key developments in 2019	Plans for 2020 and going forward
	selling securities to investors in vulnerable groups (i.e. those older than 60 years old or handicapped), with due consideration of clients' conditions, categories, and limitations. (6) Enhance the operations of bondholders' representatives into the same standards, and set expectations regarding their duties in protecting bondholders' interests. (7) Introduce mechanisms to cope with corporate bond defaults, for instance, by requiring such events to be reported to the SEC and bondholders' representatives within one business day. - Furthermore, the SEC has inspected the operations of credit rating agencies to ensure that they meet international standards and regulations in the following aspects: (1) quality and reliable rating procedures; (2) independent operations; (3) good governance, organizational risk management, and human resource management; and (4) accurate and adequate information disclosure.	
(2) Measures related to mutual funds		
Revision of supervisory guidelines for term funds and fixed-income funds Objective: To ensure that mutual funds diversify their investment,	**Issued the supervisory guideline for term funds:** - Improved diversification by reducing the proportion of investment in deposits from	- Revise the liquidity buffer requirement for fixed-income funds, by reviewing the list of liquid assets to reflect current liquidity conditions and establishing

Key measures	Key developments in 2019	Plans for 2020 and going forward
investors have more comprehensive information for decision-making, and mutual funds maintain liquid assets consistent with their redemption policies.	20 to 10 percent of NAV (effective since 2020Q1). - Disclosed information reflecting investment concentration risk, for example, by introducing the concentration risk spectrum (effective since 2020Q1). - Required agents selling term funds to warn investors of the issuer concentration risk that may arise in their portfolios (effective since 2020Q2). - Continued to educate investors.	a guideline on liquidity assessment for investment abroad (expected to take effect from 2020Q2 onwards).

3. Key supervisory developments by the OIC

Key measures	Key developments in 2019	Plans for 2020 and going forward
(1) Measures to enhance the potential of the insurance industry		
Enhancing the potential of entrepreneurs Objective: To ensure that insurance companies are financially sound and have enough capacity to provide insurance services and cushion against potential losses in the future.	- Issued the guideline requiring insurance companies to compile reports on their own risk and solvency assessment (ORSA). This is for insurance companies to self-assess their own risks and integrate their risk assessment with their capital management and business plans. - Revised the regulation regarding the maintenance of capital under the Risk-Based Capital 2 (RBC2), by enhancing the quality of capital reserves, revising risk weights in each dimension, and adding the operational risk dimension. - Required insurance companies to conduct a stress test under the scenarios specified by the OIC to assess the resilience of the companies.	- Build quantitative models to assess disaster risk and its impact on non-life insurance companies, in order to assess the risks that could affect the industry and provide data to support the policy-making process. - Explore ways to enhance sustainability of the insurance business, by raising businesses' awareness, participation, and conscience for environmental, social, and governance (ESG) issues. - Enhance the capabilities in monitoring and examining business operations, for example, by conducting on-site examinations as scheduled as well as analyzing the level of risks

Key measures	Key developments in 2019	Plans for 2020 and going forward
	- Revised the regulation regarding the request and the issuance of non-life insurance licenses for re-insurance business, by requiring that the companies be set up as a branch of foreign non-life insurance companies. The purpose is to enhance the competitiveness of the re-insurance business. - Revised the regulation regarding investment in other businesses, by allowing insurance companies to invest in equity securities for the purpose of conducting other businesses in foreign insurance companies worldwide, compared to the previous regulation which only allowed investment in the ASEAN region. - Published the criteria for selecting and identifying insurance companies with systemic importance (domestic systemically important insurers: D-SIIs).	and resilience of insurance companies. - Revise the regulation regarding the supervision of investment and the conduct of other businesses, by expanding the investment universe to suit current market conditions and increase profitable investment opportunities. - Explore and assess the impact of new financial reporting standards, to be effective in 2023, on insurance companies' financial statements, financial reports, and business operations. Moreover, the reporting of financial statements, financial positions, and guidelines for financial analysis will also be specified. - Study the impact of the International Financial Reporting Standards No.17 regarding insurance contracts (IFRS 17) on the risk-based capital framework.
Enhancing the business standards of insurance companies Objective: To ensure that insurance companies have good management systems and provide quality services, as well as ensure that their board members, managers, and persons with management power are capable and suitable for their roles.	- Conducted cybersecurity simulations together with other financial sectors.	- Issue the regulation regarding the management of IT and cyber risks of insurance companies (effective in 2020). - Conduct cybersecurity simulations jointly with insurance companies, by using Thai Insurance Computer Emergency Response Team (Ti-CERT), as a platform for reporting and exchanging information regarding cyber threats in the insurance business.

Key measures	Key developments in 2019	Plans for 2020 and going forward
Protecting rights of the insured, and enhancing market conduct of the insurance system. Objective: To ensure that the insurance system deliver fair services to the general public, and that the public have confidence in the insurance system.	- Revised the regulation regarding the supervision of agents/brokers of life and non-life insurance. - Issued the guideline regarding the supervision of life insurance agents/brokers, which covers five key aspects namely: (1) fair and quality services offered by insurance companies and selling agents; (2) selection of selling agents and sales channels; (3) standards for selling insurance policies; (4) guidelines for commercial banks regarding off-site services; and (5) after-sale services. - Enhanced skills of mediators and those related to the Insurance Mediation Center.	- Develop a system to detect information and market behavior of insurance intermediaries via online media. - Develop a dashboard for analyzing data of insurance brokers (for those who are juristic persons). - Foster knowledge and understanding of the rules and market supervision policies among related parties.
(2) Measures to foster an environment conducive to competition		
Encouraging competition by relaxing the supervision on insurance products. Objective: To allow the general public to benefit from the prices and quality of insurance products, and ensure that insurance companies are able to develop insurance products that suit their own risk profile and expertise.	- Revised the regulation on the approval of life and non-life insurance products, in order to make it more flexible and market-based (detariffication). - Revised the standard health insurance contracts to keep up with new technology and medical evolution. This is also to ensure that the contracts follow the same guidelines and are aligned with government policies.	- Draft the insurance master law with regard to health insurance as well as agricultural, livestock, and fishery insurance.

Box 4: Building a New Institutional Arrangement for National Financial Stability

Safeguarding Thailand's financial stability has become more challenging mainly due to the following factors: **(1) The financial system has become more complex and fast-changing** especially with accelerated technological advancements, which could pose new forms of financial stability risks that can transmit quickly across financial service providers, such as cyber threats. **(2) Financial service providers have become more diverse and increasingly interconnected.** Non-bank financial institutions, notably mutual funds, insurance companies, and savings cooperatives, continue to grow in terms of their assets. Moreover, some of them are still highly connected to commercial banks, such as the mutual fund businesses that are part of bank conglomerates. (**3) Each group of financial service providers is regulated by different entities**, so interagency collaboration among regulators is required so as to bridge regulatory gaps and discrepancies. This is to prevent risks from spreading to the less-regulated areas, which in turn will enhance the effectiveness of national financial stability oversight.

In the aftermath of the Global Financial Crisis in 2008, several countries have developed mechanisms to ensure collaboration among regulators in overseeing national financial stability, often referred to as financial stability committee (FSC). This body will act as a mechanism for regulators to jointly detect signals and assess risks in a timely manner, as well as act in a pre-emptive manner to prevent a pocket of vulnerabilities from escalating into a systemic concern. **Currently, there is still no international best practice with regard to the format of FSC. The establishment of FSC in each country varies, depending on the country's financial system structure, regulatory framework, and context.** However, most FSCs share three common characteristics as follows. **(1) Roles: Most FSCs focus on monitoring and assessing risks**, act as a coordinator among different entities, and give recommendations on financial stability policies. **(2) Set-ups: The central bank typically serves as the backbone that coordinates and drives the FSC, particularly in countries where the central bank is responsible for microprudential supervision**, such as Singapore, Malaysia, and the UK. In contrast, the Ministry of Finance plays the main role in the FSC in countries where the central bank is not the main body responsible for prudential supervision or several regulators exist, such as the US, Hong Kong, and China. **(3) Establishment guidelines: Countries with many financial sector regulators typically set up the FSC by signing the MOU**, for instance, Australia and Hong Kong. **Meanwhile, countries with a centralized system in overseeing financial intermediaries usually set up a committee with specific laws**, such as Malaysia and the UK **(Chart 1).**

Chart 1 Examples of Financial Stability Committees (FSCs) across countries

Single regulator

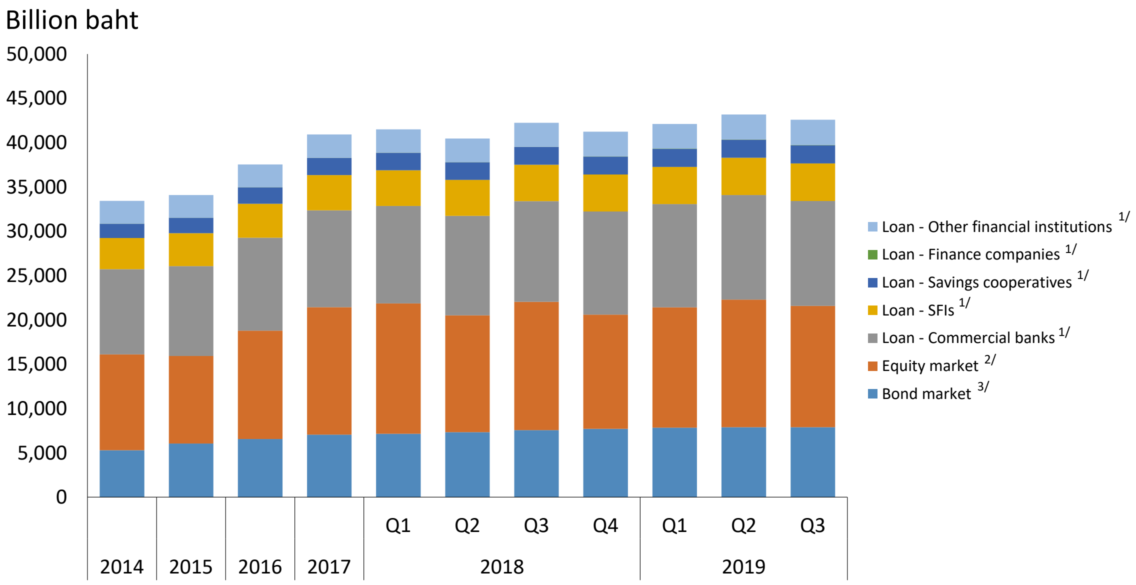
Fragmented regulators

Country	Committee name	Committee formation	Chairman of FSC
Singapore	MAS' Management Financial Stability Committee	Backed up by law	Central bank
Malaysia	Financial Stability Executive Committee	Backed up by law	
England	Financial Policy Committee	Backed up by law	
Australia	Council of Financial Regulators	MOU	
Netherlands	Financial Stability Committee	Backed up by law	
Hong Kong	Financial Stability Committee	MOU	Ministry of Finance
India	Financial Stability and Development Council	MOU	
China	Financial Stability and Development Committee	Backed up by law	
United States of America	Financial Stability Oversight Council	Backed up by law	

Sources: BIS survey on institutional arrangements for financial stability (2017), and websites of central banks and FSCs.

In the case of Thailand, financial sector regulators are in the process of exploring the appropriate set-up for *the Financial Stability Consultative Committee (FSCC).* This body will act as a mechanism for financial sector regulators to exchange information and views, as well as jointly assess risks to financial stability in a forward-looking manner. The FSCC will also provide policy consultations regarding financial stability and give recommendations on how to bridge regulatory gaps among different regulators. Each regulator will then take into account such recommendations while issuing policies or measures to prevent or mitigate risks that could have a significant impact on national financial stability. Going forward, the establishment of such coordinating mechanism should help enhance the capacity to monitor and assess risks to financial stability at a national level. It will also facilitate better policy coordination among all financial sector regulators, so that they can work together more effectively in safeguarding financial stability.

1. Thailand's financial system: Types of funding



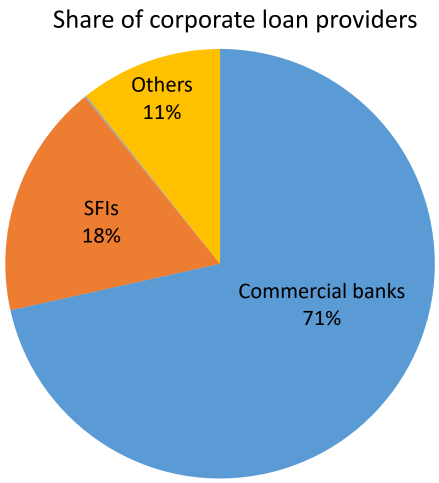
1/ Loans given to households, non-profit institutions serving households, and other non-financial corporations.
2/ Market values of equities listed in SET and mai, excluding equities issued by issuers in the financial sector.
3/ Par values of bonds issued in Thailand, excluding bonds issued by issuers in the financial sector and non-residents.

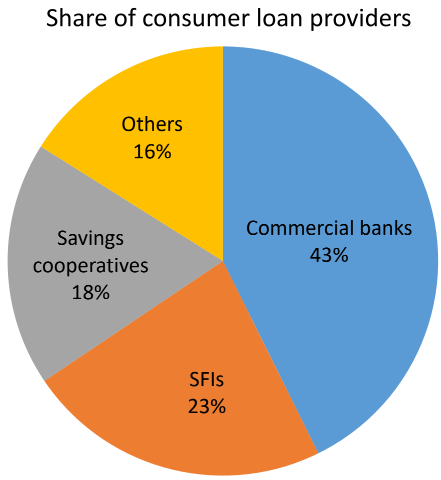
2. Financial institutions system: Number and asset size of major financial institutions

Types of financial institutions	2019 Q3 P/	
	Number	% of total assets of financial institutions
Depository corporations		
Commercial banks	30	45.04
Specialized financial institutions (SFIs)	6	15.13
Savings cooperatives 1/	1,412	6.66
Finance companies	2	0.06
Money market mutual funds (MMFs)	47	0.52
Other financial corporations		
Mutual funds (excluding MMFs)	1,560	10.73
Insurance companies	81	10.18
Leasing companies	771	1.97
Credit card, personal loan and nano finance companies under regulation 2/3/	39	2.39
Provident funds	377	2.65
Government pension fund	1	2.08
Asset management companies	59	0.75
Securities companies	48	0.87
Agricultural cooperatives 4/	3,346	0.58
Pawnshops	689	0.21
Non-depository specialized financial institutions 5/	2	0.18

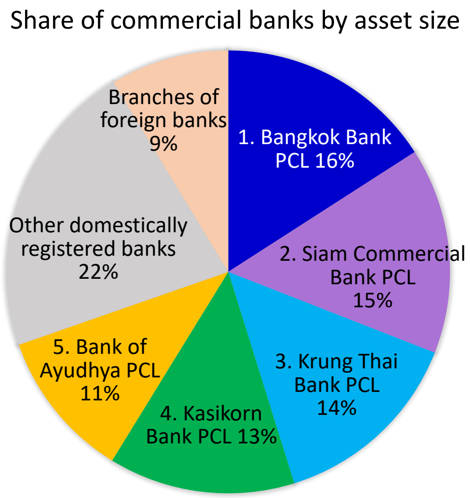
P/ Preliminary data.
1/ Savings cooperatives data do not include credit union cooperatives.
2/ Credit cards and personal loans under regulation include only financial institutions that operate with licenses issued by the Bank of Thailand and satisfy the definition of financial institutions according to the IMF Monetary and Financial Statistics Manual (2000).
3/ There were 33 nano-finance operators as of 2019Q3.
4/ Agricultural cooperatives data were as of end-2018.
5/ Secondary Mortgage Corporation (SMC) and Thai Credit Guarantee Corporation (TCG).

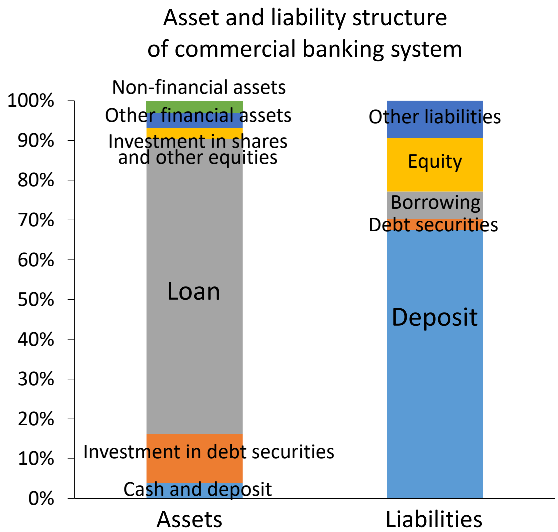
3. Loan: Corporate and consumer loans (as of 2019 Q3)



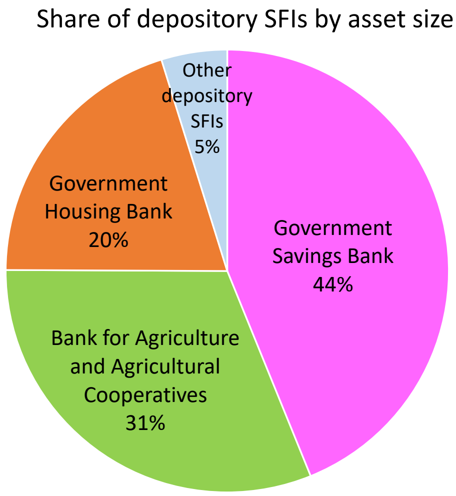


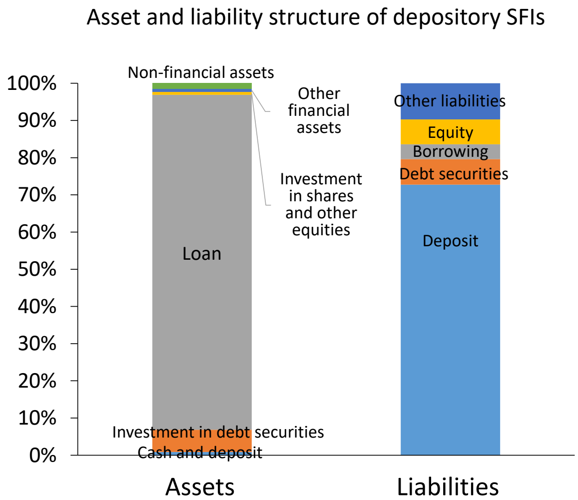
4. Structure of the commercial banking system (as of 2019 Q3)





5. Structure of the depository specialized financial institutions (SFIs) (as of 2019 Q3)





Indicators for financial condition and assessing risk to financial stability

Indicators	2014	2015	2016	2017	2018	2019 Q1	2019 Q2	2019 Q3
Overall financial system								
Nominal GDP (million baht)[1/]	13,230,301	13,743,463	14,554,571	15,451,955	16,318,033	16,482,297	16,629,307	16,735,958
Funding structures								
Loan to private sector to GDP (times)[2/]	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
Stock market capitalization to GDP (times)	0.8	0.7	0.8	0.9	0.8	0.8	0.9	0.8
Bond market capitalization to GDP (times)	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5
1. Financial institutions								
1.1 Commercial banks								
Total asset (billion baht)	16,746	17,315	17,722	18,387	18,951	19,321	19,417	19,742
% YoY	3.5	3.4	2.4	3.8	3.1	2.9	3.3	6.2
Deposit (excluding interbank)	11,693	12,027	12,346	12,967	13,472	13,649	13,625	13,824
% YoY	7.0	2.9	2.7	5.0	3.9	3.8	3.1	5.2
Loan (excluding interbank)	11,240	11,729	11,959	12,488	13,239	13,223	13,356	13,422
% YoY	5.0	4.3	2.0	4.4	6.0	5.6	4.2	3.8
Corporate loan	7,774	8,022	8,070	8,362	8,727	8,635	8,698	8,686
% YoY	4.0	3.2	0.6	3.6	4.4	3.4	1.7	1.3
- Small and medium-sized enterprises (SMEs)	7.5	5.7	1.4	2.8	4.0	2.4	1.4	0.1
- Large corporates	0.1	0.1	-0.4	4.7	4.8	4.8	1.9	2.9
Consumer loan	3,467	3,707	3,889	4,125	4,512	4,587	4,658	4,737
% YoY	7.4	6.9	4.9	6.1	9.4	10.1	9.2	8.7
- Housing loan	12.1	9.3	6.9	5.5	7.8	9.1	7.8	6.6
- Car loan	-3.4	0.5	1.4	8.4	12.6	11.4	10.2	9.7
- Credit card and personal loan under regulation	5.0	2.8	3.0	1.7	7.4	10.2	12.2	13.3
- Other personal loan	14.2	12.2	5.0	7.3	10.7	11.0	10.7	10.9
Liquidity								
Loan to deposit (%)	96.1	97.5	96.9	96.3	98.3	96.9	98.0	97.1
Loan to deposit and B/E (%)	95.7	97.0	96.3	96.1	98.2	96.8	97.9	97.0
Asset quality								
NPL Ratio (%)	2.15	2.55	2.83	2.91	2.94	2.94	2.95	3.01
SM Ratio (%)	2.61	2.38	2.63	2.55	2.42	2.56	2.74	2.59
Actual/regulatory loan loss provision (%)	169.4	156.3	159.6	171.9	193.2	195.0	195.7	196.3
NPL coverage ratio (%)	142.8	131.0	136.5	139.5	150.0	150.1	150.3	146.2
Profitability								
Operating profit (billion baht)	355	370	383	394	398	104	106	165
Net profit (billion baht)	224	192	199	187	207	57	61	97
Return on asset (ROA)	1.4	1.1	1.1	1.0	1.1	1.2	1.3	2.0
Net interest margin (%)	2.8	2.7	2.8	2.8	2.7	2.8	2.7	2.7
Capital adequacy								
Regulatory capital to risk-weighted asset (%)	16.8	17.4	18.0	18.2	18.3	18.2	18.5	19.2
Tier-1 ratio (%)	13.7	14.6	15.1	15.6	15.8	15.7	15.8	16.2
Common equity tier 1 (%)	13.6	14.5	15.1	15.6	15.8	15.7	15.8	16.2
Interest rates[3/]								
Weighted average minimum loan rate (MLR)	4.9	4.6	4.3	4.3	4.1	4.2	4.1	4.1
12-month fixed deposit	1.7	1.4	1.4	1.4	1.4	1.5	1.5	1.5

[1/] Nominal GDP (or GDP at current prices) data have been revised from 2012 onward. Quarterly data presented are calculated from four-quarter moving average.
[2/] Loans given to households, non-profit institutions serving households, and other non-financial corporations.
[3/] Interest rates for retail customers, calculated using rates from 5 commercial banks (Bangkok Bank, Krung Thai Bank, Siam Commercial Bank, Kasikorn Bank, and Bank of Ayudhya).

Indicators for financial condition and assessing risk to financial stability

Indicators	2014	2015	2016	2017	2018	2019		
						Q1	Q2	Q3
1.2 Specialized financial institutions[4/]								
Total asset (billion baht)	4,678	5,006	5,370	5,719	6,010	6,078	6,065	6,150
% YoY	4.1	7.0	7.3	6.5	5.1	4.8	3.2	6.3
Deposit (excluding interbank)	3,867	4,181	4,421	4,663	4,924	4,978	4,954	4,986
% YoY	4.8	8.1	5.7	5.5	5.6	4.8	4.4	5.0
Loan (excluding interbank)	3,717	3,979	4,062	4,407	4,742	4,842	4,887	4,909
% YoY	5.5	7.1	2.1	8.5	7.6	7.1	7.3	4.6
Asset quality								
NPL ratio (%)	5.1	4.9	5.0	4.2	4.0	4.2	4.5	4.7
SM ratio (%)	3.2	2.9	3.3	4.5	4.5	4.0	4.4	4.1
Profitability								
Operating profit (billion baht)	79	91	101	107	121	33	27	27
Net profit (billion baht)	34	38	47	53	55	11	11	12
Return on asset (ROA)	0.7	0.8	0.9	1.0	1.0	0.7	0.7	0.8
Net interest margin (%)	2.8	2.9	2.9	3.0	2.8	3.1	2.5	2.8
Capital adequacy								
Regulatory capital to risk-weighted asset (%)	10.8	11.3	12.2	12.3	13.7	13.7	14.0	14.3
2. Financial markets								
Government bond market								
Bond spread (10 years - 2 years) (%)[5/]	0.7	0.9	1.0	1.1	0.7	0.7	0.4	0.1
Non-resident holdings (%)[6/]	10.0	7.8	8.1	10.6	11.1	10.5	10.8	10.1
Stock markets (SET and mai)								
SET Index (end of period)	1,497.7	1,288.0	1,542.9	1,753.7	1,563.9	1,638.7	1,730.3	1,637.2
SET actual volatility (%)	13.0	13.9	14.2	6.5	12.1	8.4	7.8	10.7
SET price to earning ratio (times)	17.8	22.6	18.6	19.1	14.8	17.1	18.6	18.7
mai Index (end of period)	700.1	522.6	616.3	540.4	356.4	364.1	363.6	345.6
mai actual volatility (%)	19.0	21.2	18.9	10.8	11.7	9.6	8.8	12.4
mai price to earning ratio (times)	69.6	52.9	63.3	106.1	44.3	52.1	43.4	40.6
Foreign exchange market								
Exchange rates (end of period) (USD/THB)	32.9	36.0	35.8	32.6	32.6	31.7	31.1	30.6
Actual volatility (% annualized)	4.0	5.1	4.4	3.3	4.6	4.6	4.5	4.5
Nominal effective exchange rate (NEER)	104.3	108.5	106.1	106.5	115.5	119.9	120.8	125.0
Real effective exchange rate (REER)	103.1	104.4	100.7	104.6	107.2	110.1	111.3	114.6
3. External sector								
Current account to GDP[7/]	2.9	6.9	10.5	9.6	5.6	9.3	4.0	6.8
External debt to GDP[8/]	34.7	32.0	32.5	36.7	35.5	35.1	34.8	34.0
Foreign currency external debt to GDP	24.6	23.6	23.1	24.9	23.2	23.0	22.2	21.4
External debt (million USD)	141,715	131,078	132,158	155,225	162,376	164,495	166,718	166,220
Short-term (%)	40.2	40.1	41.2	44.3	39.0	38.5	37.5	35.3
Long-term (%)	59.8	59.9	58.8	55.7	61.0	61.5	62.5	64.7
International reserves								
Net reserves (million USD)	180,238	168,164	197,613	239,307	239,371	244,788	250,298	253,669
Gross reserves to short-term debt (times)	2.8	3.0	3.2	2.9	3.2	3.4	3.5	3.8

4/ 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.
5/ Calculated using interpolated yield curve from ThaiBMA.
6/ Non-resident holdings data include government bonds, Bank of Thailand bonds, and state-owned enterprises' bonds that the Bank of Thailand serves as registrar.
7/ Current account to GDP ratio is calculated using quarterly nominal GDP in the same period.
8/ External debt to GDP ratio is calculated as the ratio of external debt to three-year average of nominal GDP.

Indicators for financial condition and assessing risk to financial stability

Indicators	2014	2015	2016	2017	2018	2019 Q1	2019 Q2	2019 Q3
Capital flow								
Net capital flow (million USD)	-15,955	-16,799	-20,840	-12,498	-14,948	-5,109	-2,532	-1,075
Direct investment (flow)								
Thailand direct investment abroad	-5,742	-4,991	-13,362	-18,531	-21,249	-4,427	-3,829	-3,951
Foreign direct investment in Thailand	4,975	8,928	2,810	8,229	13,205	669	2,076	4,450
Portfolio investment (flow)								
Thailand portfolio investment abroad	-7,318	-3,817	-4,279	-11,551	-1,952	-1,278	-594	-2,468
Foreign portfolio investment in Thailand	-4,695	-12,691	1,481	9,401	-3,911	-1,291	2,578	-3,670
4. Households								
Household debt to GDP (%)	79.7	81.2	79.6	78.3	78.6	78.7	78.7	79.1
%YoY	6.6	5.7	3.9	4.5	6.0	6.3	5.8	5.5
Financial asset to debt (times)	2.5	2.5	2.6	2.9	2.7	2.7	2.7	n.a.
Commercial banks' NPL and SM ratio (%)								
- Housing loan	3.8	4.1	4.7	5.1	5.0	5.0	5.1	5.3
- Car loan	10.8	10.1	9.2	8.8	8.8	8.6	9.1	9.3
- Credit card and personal loan under regulation	6.8	7.1	6.5	5.2	4.7	5.0	4.8	5.2
- Other personal loan	4.0	4.2	4.7	4.6	4.6	4.7	4.6	4.2
5. Corporates								
Corporate debt to GDP (%)	76.7	78.3	77.8	75.7	76.2	75.7	75.8	n.a.
Commercial banks' NPL and SM ratio (%) :								
- Small and medium-sized enterprises (SMEs)	5.5	5.7	6.8	7.4	7.3	7.8	7.7	8.0
- Large corporates	3.3	3.5	3.8	3.5	3.2	3.3	3.6	3.2
Performance of non-financial listed companies								
Net profit margin (%)	7.0	7.4	8.2	8.0	7.5	7.5	5.9	7.4
Debt to equity ratio	0.8	0.7	0.7	0.7	0.7	0.7	0.8	0.8
Interest coverage ratio (times)	5.6	5.6	6.4	6.4	6.3	5.2	3.8	4.8
Current ratio (times)	1.6	1.6	1.6	1.7	1.6	1.6	1.6	1.6
6. Real estate sector								
Number of approved mortgages from commercial banks (Bangkok and vicinity)								
Single-detached and semi-detached house (unit)	16,065	14,498	14,791	14,546	15,912	4,446	3,460	4,136
Townhouse and commercial building (unit)	22,356	21,236	22,141	21,471	25,042	7,290	5,719	6,129
Condominium (unit)	25,644	28,897	30,371	29,146	32,407	7,974	6,804	6,876
Number of new housing units launched for sale (Bangkok and vicinity)								
Single-detached and semi-detached house (unit)	18,915	17,637	19,433	14,280	18,311	4,458	4,213	4,822
Townhouse and commercial building (unit)	29,788	27,518	32,792	36,571	32,349	5,236	7,940	8,837
Condominium (unit)	65,298	62,833	58,350	63,626	74,317	19,804	13,846	12,846
House price index (January 2009 = 100)								
Single-detached house (including land)	125.8	128.5	130.4	131.0	138.6	141.9	142.9	145.0
Townhouse (including land)	129.4	134.3	137.1	141.2	149.5	156.6	154.7	154.6
Condominium	143.8	155.4	165.2	169.6	180.9	181.6	177.0	179.0
Land	141.4	157.2	170.0	168.6	173.6	175.5	168.1	167.1
7. Fiscal sector								
Public debt to GDP (%)	42.5	43.7	40.7	41.2	41.9	41.9	41.4	41.2

Pursuing Sustainable Economic Well-Being

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