ธนาคารแห่งประเทศไทย
BANK OF THAILAND

Monetary Policy Report

September 2022

Monetary Policy Report

The Monetary Policy Report is prepared quarterly by staff of the Bank of Thailand with the approval of the Monetary Policy Committee (MPC). It serves two purposes: (1) to communicate to the public the MPC's consideration and rationales for the conduct of monetary policy, and (2) to present the latest set of economic and inflation forecasts, based on which the monetary policy decisions were made.

The Monetary Policy Committee

Mr. Sethaput Suthiwartnarueput	Chairman
Mr. Mathee Supapongse	Vice Chairman
Miss Vachira Arromdee	Member
Mr. Kanit Sangsubhan	Member
Mr. Rapee Sucharitakul	Member
Mr. Somchai Jitsuchon	Member
Mr. Subhak Siwaraksa	Member

Monetary Policy in Thailand

Monetary Policy Committee

Under the Bank of Thailand Act, the Monetary Policy Committee (MPC) comprises the governor and two deputy governors, as well as four distinguished external members representing various sectors of the economy, with the aim of ensuring that monetary policy decisions are effective and transparent.

Monetary Policy Objective

The MPC implements monetary policy under the flexible inflation targeting regime. While regarding medium-term price stability as its primary objective, the MPC also aims at supporting sustainable, full-potential economic growth and preserving financial stability, attributing to long-term price stability and economic sustainability.

Monetary Policy Target

On December 14, 2021, the Cabinet approved the monetary policy target for 2021, which was mutually agreed between the MPC and the Minister of Finance to set the headline inflation within the range of 1–3 percent as the target for the medium-term horizon and for 2022. In the event that average headline inflation in the past 12 months or a forecast of average headline inflation over 12 months ahead breaches the target range, the MPC shall send an open letter to the Minister of Finance to explain reasons for the breach of the target range, together with measures taken and estimated time to bring inflation back to the target. In addition, the MPC will write an additional open letter to the Minister of Finance every six months if average headline inflation based on the above criteria remains outside the target range.

Monetary Policy Instrument

The MPC utilizes the 1-day bilateral repurchase transaction rate as the policy interest rate to signal the monetary policy stance.

The MPC has adopted the managed float exchange rate regime to stabilize and limit the volatilities in the exchange rate, as to let the baht reflect economic fundamentals

Evaluation of Economic Conditions and Forecasts

The Bank of Thailand takes into account information from all sources, the macroeconomic model, data from each economic sector, as well as surveys of large enterprises, together with small and medium-sized enterprises from all over the country, and various financial institutions to ensure that economic evaluations and forecasts are accurate and cover all aspects, both at the macro and micro levels.

Monetary Policy Communication

Recognizing the importance of monetary policy communication to the public, the MPC employs various channels of communication, both in Thai and English, such as (1) publishing a press statement at 14:00 and holding a press conference regarding the results of the meeting at 14:30 on the day of the Committee meeting (2) publishing edited minutes of the MPC meeting two weeks after the meeting, and (3) publishing the Monetary Policy Report every quarter.

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Executive Summary

Assessment of the Economic and Inflation Outlook

Global Economy

Trading partners' growth is expected to slow to 2.9% in 2022 and 2.6% in 2023. This downward revision is due to high inflation, slowing global demand, and tighter-than-expected financial conditions as a result of monetary policy normalization by central banks around the world. Risks to trading partners' growth outlook are tilted to the downside due to tightening and more volatile global financial conditions, potential slowdown in global trade, and geopolitical tensions that could escalate and become prolonged.

The Thai Economy

The Thai economy is expected to continue expanding at 3.3% in 2022 and 3.8% in 2023 driven mainly by tourism and private consumption. The number of foreign tourists is revised up to 9.5 million in 2022 and 21 million in 2023 given higher tourism demand and the relaxation of international travel restrictions. **The economic recovery has become more broad-based across business sectors especially in the services sector, and across income groups.** This is reflected in unemployed and underemployed figures which have been declining to pre-COVID levels, as well as the income recovery of workers in the manufacturing and services sectors, and among the self-employed. **The global economic slowdown has an impact on exports but would not derail the overall Thai economic recovery** as the recovery is driven mainly by tourism and domestic consumption. Foreigners who travel to Thailand recently are mostly from regional countries (excl. China) and have high income. Demand of such tourists are not significantly sensitive to prevailing global economic conditions.

Risks to the growth outlook become balanced. Upside risks include higher-than-expected foreign tourist figures and private investment, while downside risks include the global economic slowdown and policy rate hikes by central banks around the world.

Inflation

Headline inflation is expected to average 6.3% in 2022 and 2.6% in 2023. Headline inflation would decline in tandem with global oil prices and the easing of supply chain disruptions. Core inflation is expected to be higher, averaging at 2.6% in 2022 and 2.4% in 2023, mainly due to higher cost passthrough. Nonetheless, cost passthrough would be limited going forward as most businesses have already passed on some of the higher costs to consumers in recent periods. Wages have also increased in some sectors and areas, but there have not been signs of a broad-based wage increase. Risks of wage-price spiral in Thailand remain limited because the share of wage earners in Thailand is lower than advanced economies, and the Thai labor supply is more elastic than other countries. Immigrants and workers that have previously relocated to their hometowns are also gradually returning to economic areas. Demand-pull inflationary pressures are limited as the Thai economy is still in a recovery phase. Meanwhile, medium-term inflation expectations remain well-anchored within the target range.

The above inflation projection has thoroughly considered both upside and downside risks, and the baseline projection has already taken into account various factors that could cause inflation to remain high for longer to some extent. Notwithstanding, risks to the inflation outlook must be monitored closely, especially the risk of higher cost passthrough if businesses face rising cost pressures from multiple sources simultaneously such as raw materials, oil prices, and wages. This could affect inflation expectations going forward. Nonetheless, inflation could turn out lower than the baseline if energy prices decline much more than expected given the impact of global economic slowdown on demand.

Financial Conditions and Financial Stability

Overall financial conditions in Thailand remain accommodative. The real interest rate remains negative, and private sector funding costs remain conducive for business financing although government bond yields have gradually risen in tandem with the policy rate. Short-term government bond yields increased slightly in line with the gradual pace of monetary policy normalization, while long-term government bond yields moved in line with US Treasury yields. Commercial bank lending rates have gradually increased but remain low overall. **On exchange rates, the baht against U.S. dollar** continued to depreciate rapidly due to the U.S. dollar’s strength, and moved in line with regional currencies. The MPC will continue to closely monitor developments in the financial and exchange rate markets, especially during the period of heigntened volatilities, and assess the impact on the overall growth and inflation outlook. However, Thailand’s external stability remains strong. External debt remains low, no unusual movements in capital flows have been observed, and international reserves remain high.

Financial stability remains sound overall. Commercial banks’ capital and loan loss provision remain high. Debt serviceability of businesses and households has improved in line with the economic recovery. However, SMEs in some sectors have yet to fully recover, and some low-income households are still sensitive to the rising living costs. Debt-to-GDP ratios of households and businesses remain high. The MPC views that an aggressive policy rate hike could negatively impact the recovery of those vulnerable groups. Monetary policy should thus be normalized in a gradual and measured manner, coupled with having targeted measures and sustainable solutions in place for the vulberable groups.

Monetary Policy Decisions in the Third Quarter of 2022

At the meeting on 10 August 2022, the MPC voted 6 to 1 to raise the policy rate by 0.25 percentage point from 0.50% to 0.75%. Most members voted to raise the policy rate by 0.25 percentage point in favor of a gradual policy rate hike which would facilitate a sustained economic recovery without creating upward pressures on inflation in the period ahead. One member voted to raise the policy rate by 0.50 percentage point to reduce the risk of having to raise the policy rate aggressively in the future, and views that such a rate hike would not significantly impact the economic recovery, while helping to build up policy space to prepare for any future uncertainty.

At the meeting on 28 September 2022, the MPC voted unanimously to raise the policy rate by 0.25 percentage point from 0.75% to 1.00%. The Thai economic recovery has continued to gain traction on the back of tourism and private consumption. Headline inflation remains high due to higher cost passthrough in recent periods despite declining commodity prices. Overall, the growth and inflation outlook is largely unchanged from the previous assessment. Thus, the MPC deems that a gradual policy normalization remains an appropriate course for monetary policy.

Under the monetary policy framework with objectives of maintaining price stability, supporting sustainable and full-potential economic growth, and preserving financial stability, the MPC assesses that the Thai economy will continue to recover but with increased inflation risks mainly from supply-side factors, and that SMEs in sectors that have yet to fully recover and low-income households are still vulnerable. **The MPC judges that the policy rate should be normalized in a gradual and measured manner to a level that is consistent with sustainable growth in the long term. The MPC is ready to adjust the size and timing of policy normalization should the growth and inflation outlook shifts from the current assessment.**

1. Global Economy

Global Economy: Key Issues

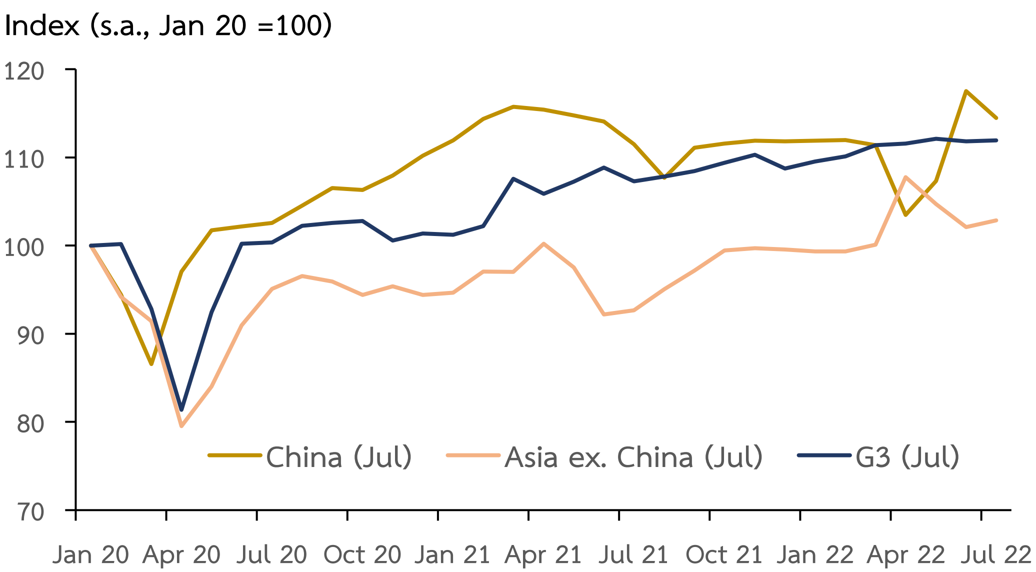
Global economy is expected to slow down in the period ahead due to the impact of inflation on growth among advanced economies, and economic slowdown in China.

Inflation is rising in many countries. Elevated inflation prompted many central banks to pursue aggressive policy rate hikes.

Risks to trading partners' growth are tilted to the downside from tighter and more volatile global financial conditions, global trade slowdown, and geopolitical tensions.

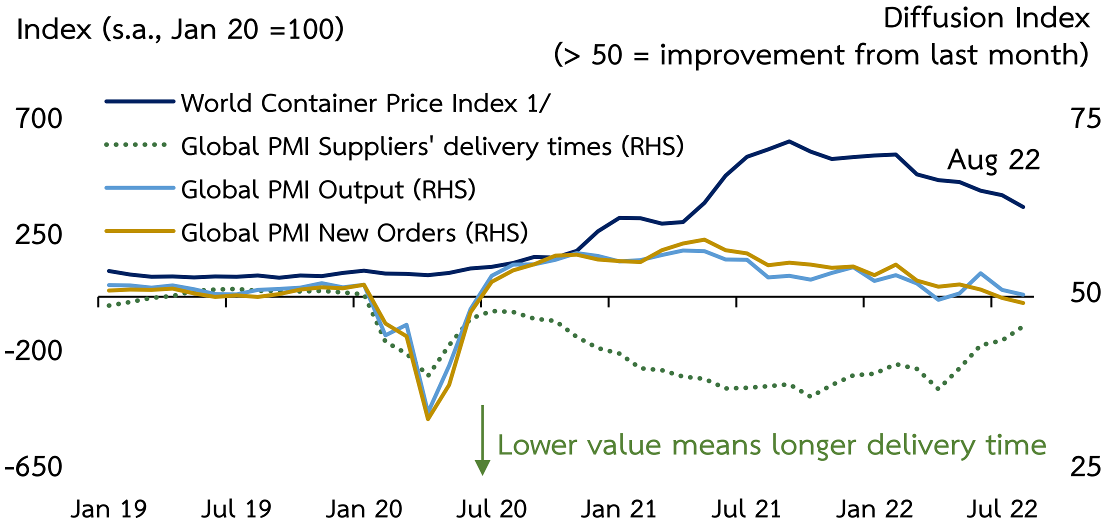
Consumption and manufacturing sector are expected to slow down as elevated inflation has weighed on global demand, whereas global supply disruptions have continued to ease. Looking ahead, consumption and manufacturing sector will still be weighed down by high inflation and monetary policy tightening which will impact consumer purchasing power and production costs, as well as weaken confidence as a result of greater uncertainties.

Retail Sales Index



Source: CEIC

Global Manufacturing Purchasing Manager Index: PMI



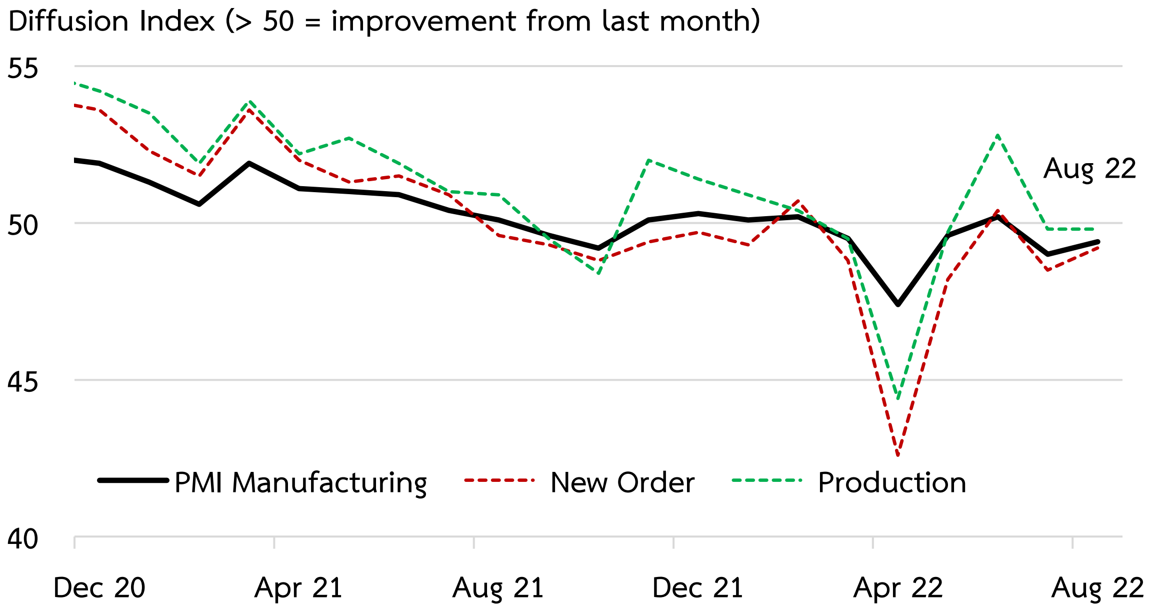
Note: [1/]Composite Container Freight Benchmark Rate per 40 Foot Box

Source: Bloomberg, JP Morgan

Consumption is affected mainly by higher living costs resulting from high inflation. The retail sales index in July is largely unchanged from the previous month for G3 and Asian countries, but declines for China following the new COVID-19 outbreak in many cities. **Manufacturing sector began to slow down in tandem with global demand**. This is reflected in declining Global Manufacturing PMI **despite the gradual easing of global supply disruptions** as reflected in shorter delivery time and falling freight costs. **Going forward, consumption and manufacturing sector would likely continue to decline** given the rising inflation outlook which will affect household and business confidence.

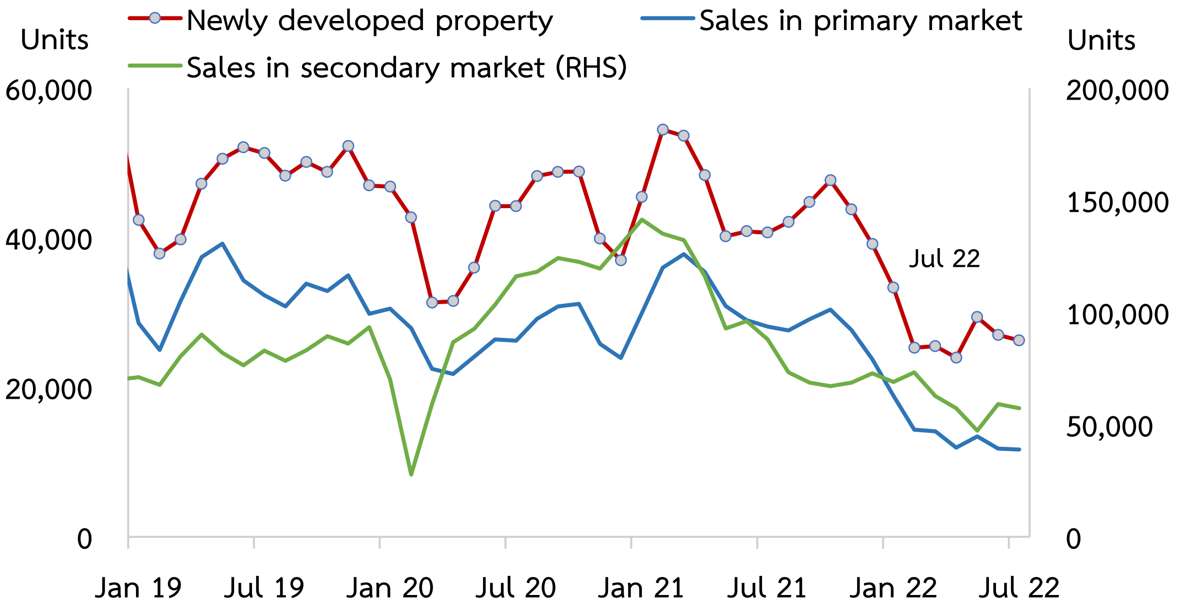
The Chinese economy has slowed down. Declining global demand has impacted China's manufacturing and exports. Domestic demand in China has also been affected by containment measures which have been in place in many cities and prolonged problems in the real estate sector.

China's Manufacturing Purchasing Manager Index: PMI



Source: CEIC

Property Sales in China

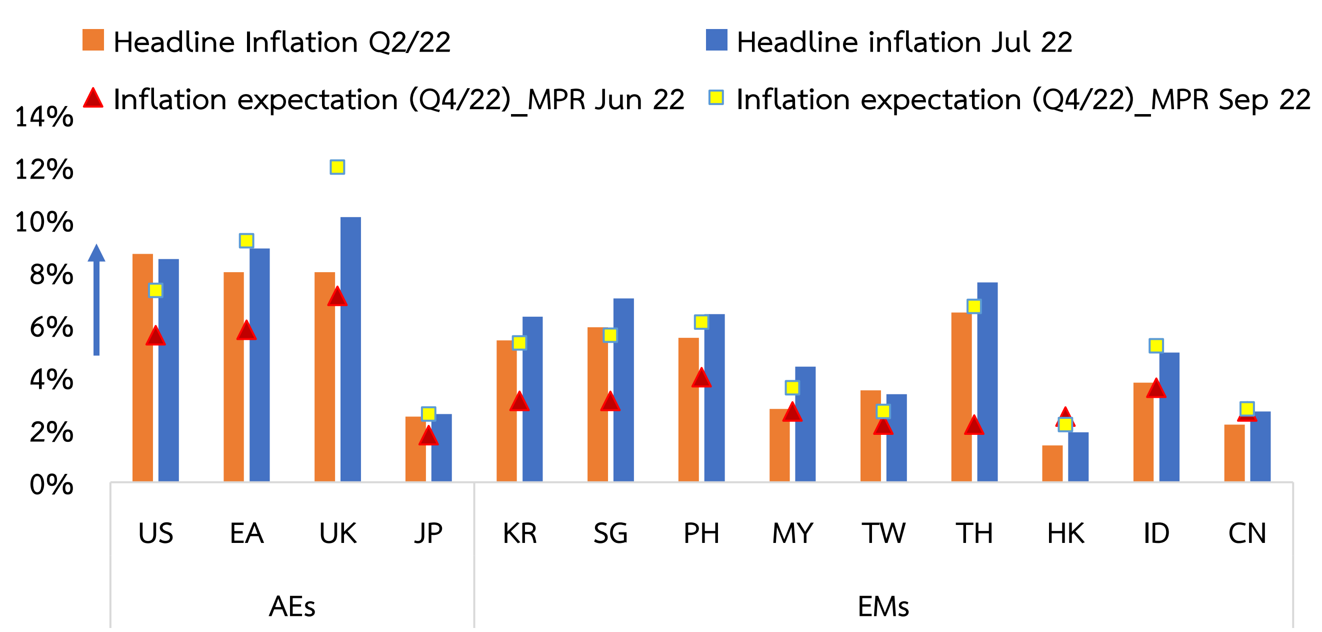


Source: NBS, CREIS, CRIC, Wind, Local Land and Resources Bureaus

China's manufacturing and exports would grow at a slower pace owing to global economic slowdown and weaker domestic demand given the continuation of the government's Zero-COVID policy which limited people's mobility in many cities. Such policy is a major factor that weigh on consumption and consumer confidence. **China's real estate sector also remains stagnant** as buyers are concerned about developers' ability to complete their projects and deliver the homes they have sold. While the Chinese government has deployed stimulus and assistance measures, problems in the real estate sector are likely to persist and affect investment confidence among households and businesses going forward.

Headline inflation and inflation expectations are still rising in many countries in line with high energy and food prices. Most commodity prices have started to fall, except for natural gas prices which remain elevated as Russia has cut off natural gas supplies to Europe.

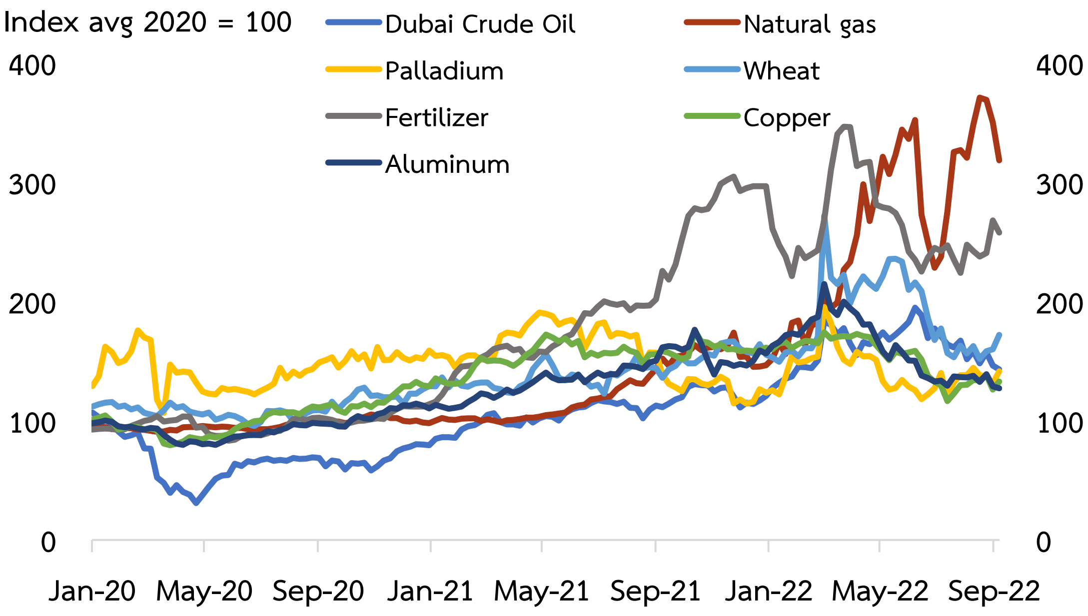
Headline Inflation and Short-term Inflation Expectations



Note: Inflation expectations from Bloomberg median

Source: Bloomberg, CEIC

Energy and Commodity Prices



Source: Bloomberg (Data as of 12 Sep 2022)

Headline inflation and inflation expectations have risen in many countries owing to energy and food prices. Inflation in advanced economies has picked up with the economic recovery and increased energy prices. Euro area countries were additionally affected by supply-side inflationary pressures due to Russia's natural gas cut-off. In Asia, rising inflation has been mainly affecting net energy importing countries. Inflation in some Asian economies remains relatively low due partly to government measures including energy price and cost-of-living subsidies. Looking ahead, supply-side pressures on global inflation are likely to ease in tandem with declining commodity prices.

A faster-than-expected rise in inflation and near-potential economic growth prompted the Fed and many other central banks to tighten monetary policy more aggressively.

Expectations of the Fed's monetarty policy in 2022 - 2023

Rate	2021*	2022	2023
Fed funds rate assumption (% at year-end)	0.00 – 0.25	4.25 - 4.50 (2.50 – 2.75)	4.50 - 4.75 (3.00– 3.25)

Notes: * Outturn, ( ) *Monetary Policy Report* June 2022 forecasts

Source: BOT projections (as of 22 Sep 2022)

The Federal Reserve (Fed) is likely to tighten monetary policy more aggressively as reflected in higher median of federal funds rate in its Summary of Economic Projections. This was because inflation remains well above the target and labor market conditions remain tight. **Going forward, the Fed would likely continue to raise interest rate in the two remaining FOMC meetings in 2022. The federal funds rate is expected to be 4.25%-4.50% at the end of 2022.**

On 8 September 2022, the European Central Bank (ECB) raised its key interest rates by 75 basis points (bps), causing the deposit facility rate to stand at 0.75%. The decision was underpinned by elevated inflation and the aim of keeping inflation expectations anchored. **Looking ahead, the ECB is likely to continue raising interest rates** as the ECB has announced that the size of interest rate adjustment would be data dependent and determined on a meeting-by-meeting basis. The financial market expects the ECB to raise interest rates twice throughout the rest of 2022 with 50 bps increase in October and a 25 bps increase in December.

Most Asian central banks have raised interest rates following the aggressive rate hikes by major central banks in recent periods. It was also due to the gradual economic recovery in Asia and rising inflation in many countries in tandem with rising energy and commodity prices. Central banks in some countries have decided to raise interest rates to preserve the stability of the exchange rate or to safeguard financial stability. These include, for example, central banks in South Korea (+1.25%)[1/], Philippines (+2.25%)[1/], Malaysia (+0.75%)[1/], and Indonesia (+0.75%)[1/]. **Central banks in Asia would likely continue to raise interest rates this year.**

[1/] Cumulative interest rate increases since the COVID-19 pandemic up until 27 Sep 2022

Thailand's trading partner economies would continue to expand in 2022 albeit at a slower pace than previously assessed due to the impact of elevated inflation and global demand slowdown. Trading partners' growth forecast for 2023 is revised down on account of weaker growth momentum and tighter-than-expected financial conditions.

Assumptions of Trading Partners' Growth

%YOY	weight (%)	2021*	2022		2023	
			MPR Jun 22	MPR Sep 22	MPR Jun 22	MPR Sep 22
US	21.0	5.7	2.7	1.5	2.0	0.8
Euro Area	10.9	5.2	2.8	2.8	1.8	0.7
Japan	12.5	1.7	2.2	1.4	1.9	1.6
China	18.7	8.1	4.5	3.2	5.1	5.0
Asia (excl. Japan and China)**	29.7	5.4	4.0	3.9	3.9	3.8
Total***	100	5.6	3.4	2.9	3.1	2.6

Notes: * Outturns

** Weighted by the share of Thai exporting values to each country in 2021, namely Singapore (4.5%), Hong Kong (5.8%) Malaysia (6.1%), Taiwan (2.3%), Indonesia (4.4%), South Korea (3.0%), Philippines (3.5%)

*** Weighted by the share of Thai exporting values to each country in 2021 (incl. UK and Australia)

Trading partner economies would grow at a lower rate in 2022 than previously assessed in tandem with the economic slowdown in advanced economies due to higher living costs as a result of rising inflation. Asian economies would also be weighed down by slowing global demand. The Chinese economy would slow from both softer global demand and weaker domestic demand resulting from the continuation of Zero-COVID policy and prolonged problems in the real estate sector.

Trading partners' growth forecast for 2023 is revised down from weaker growth momentum than 2022, tighter-than-expected financial conditions, and slowing global demand due to monetary policy tightening by the Fed, ECB, and central banks in Asia.

Risks to trading partners' growth outlook is tilted to the downside from tighter and more volatile global financial conditions, potentially sharp slowdown in global trade, as well as severe and more prolonged geopolitical tensions.

Downside risks

Global financial conditions could become tighter and more volatile due to more aggressive monetary policy tightening by major central banks, rising financial stability risks stemming from problems in China's real estate sector which may take longer time to resolve, and deterioration in balance sheets of Chinese businesses and households if the outbreak becomes prolonged, which will affect income and debt serviceability.

Global trade may be slower than expected due to (1) high inflation which could cause a sharp decline in global demand, (2) the Chinese economic growth which could be lower than expected, (3) prolonged problems of global supply disruptions, shortages of raw materials, and logistics, and (4) climate change which could affect production and exports more than expected. For example, the falling water level in Rhine River has affected shipment, and heat waves in China have affected manufacturing and agricultural outputs.

Geopolitical tensions, including the Russia-Ukraine and the China-Taiwan conflicts, could escalate and become more prolonged. This would adversely impact the global economy and global supply chain, and exacerbate the prevailing problems of chip shortages and high commodity prices.

Upside risks

Trading partners' growth could be stronger than expected, especially for Asian economies where international tourism and services could recover faster than expected.

2. The Thai Economy

The Thai Economy: Key Issues

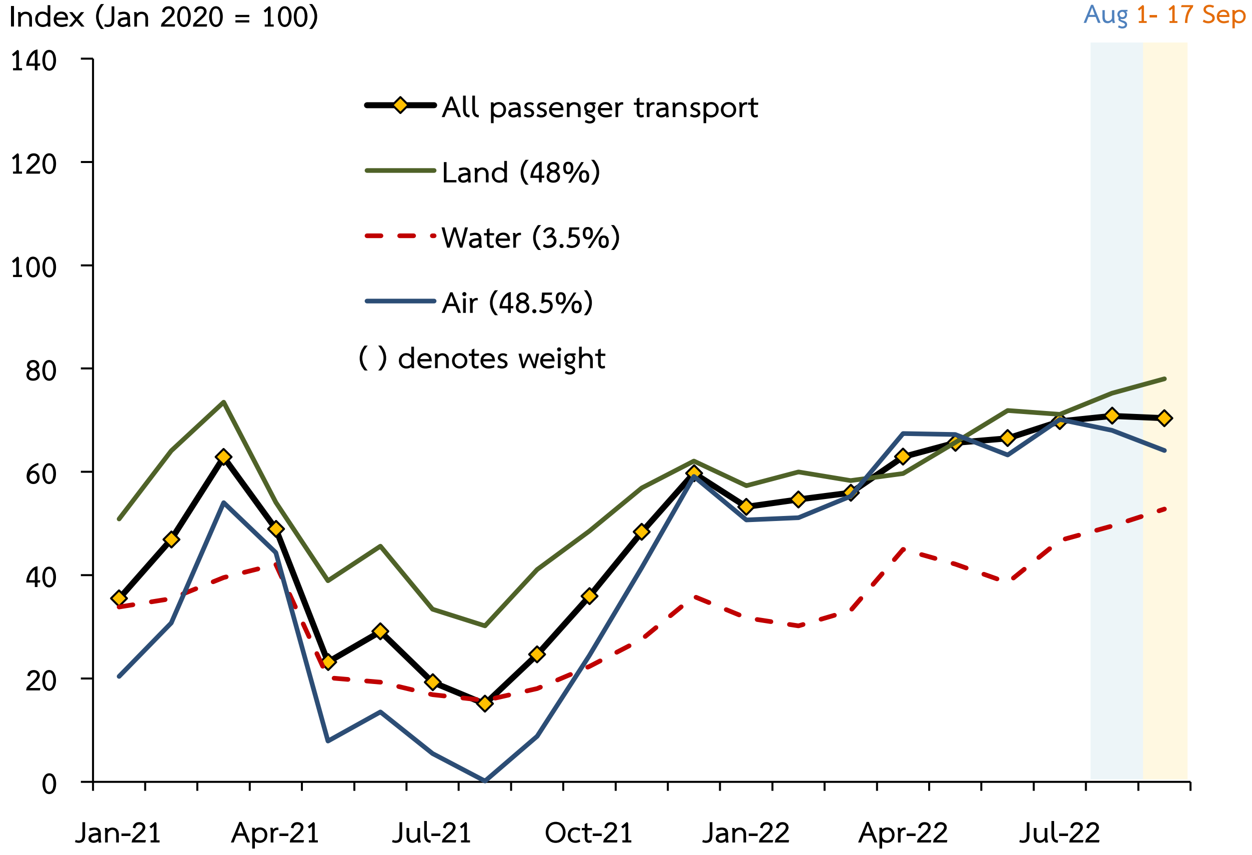
The Thai Economy would continue to expand from better-than-expected tourism recovery and strong consumption growth. Global slowdown has affected exports but not the overall economic recovery.

Labor market conditions and household income has continued to improve, in line with the continued recovery in economic activities, especially in tourism-related services.

Headline inflation would remain high but is expected to decline in line with global oil prices and the gradual easing of supply disruptions. However, core inflation is picking up. It is thus necessary to monitor cost passthrough which could become higher in the period ahead.

Rapid indicators suggest a continued recovery in economic activities both for domestic travel and consumption spending

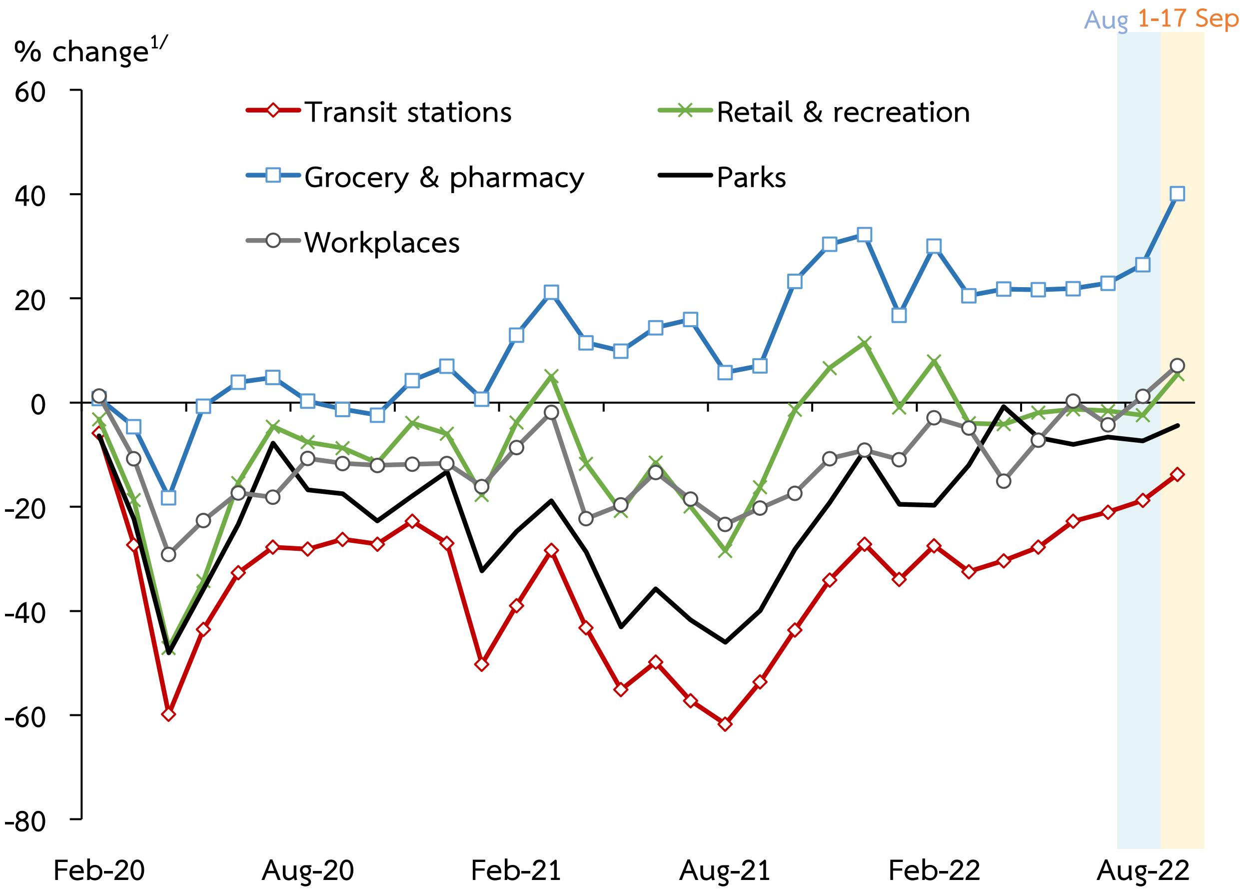
Thailand's Mobility Data (by mode of transport)



Note: calculated using various data sources (1) Land: Traffic Volume (Department of Highways), BMTA bus passengers, BTS/MRT ridership (2) Air: Number of passengers on domestic flights (Department of Airports) (3) Water: Number of passengers on Chao Phraya express boats, Khlong Saensaeb boats, and ferries

Source : Ministry of Transport

Google Mobility: Thailand



Note: [1/] Change vis-à-vis the mid point of each day during 3 Jan – 6 Feb 2020

Source: Google

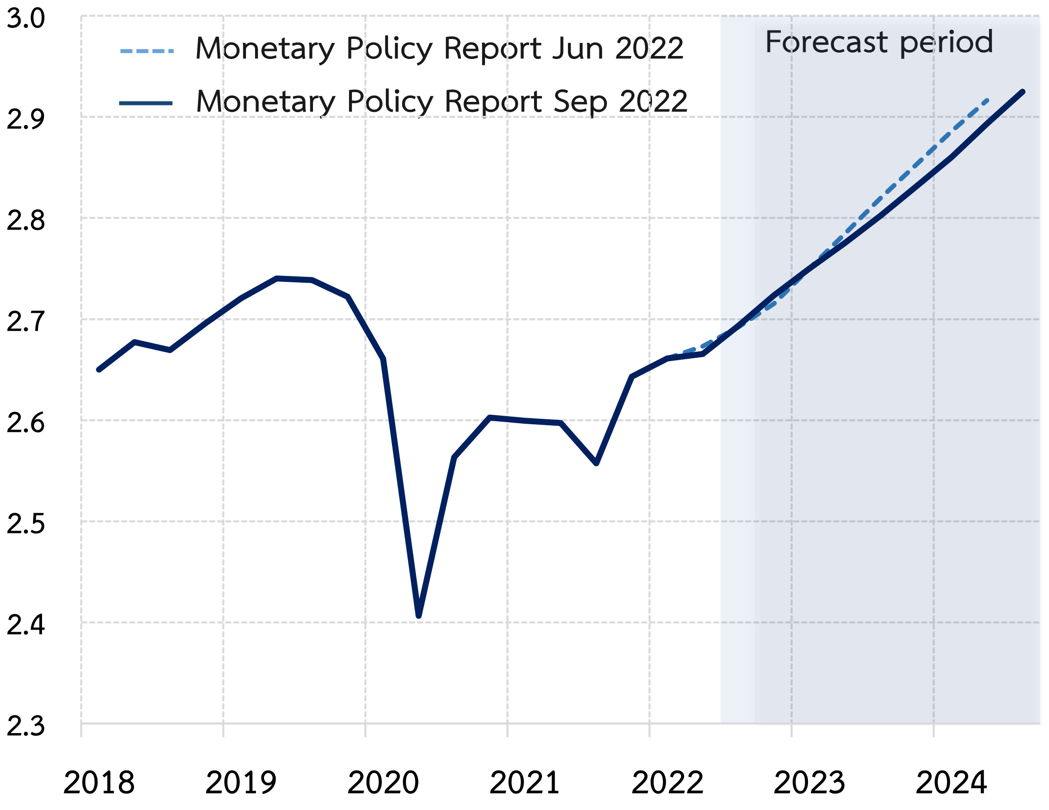
The economic outturns in Q2/2022 are weaker than expected but are offset by higher-than-expected foreign tourist arrivals. Thus, the growth forecast for 2022 is largely unchanged. Meanwhile, growth forecast for 2023 is revised down as the global slowdown affects Thai exports. However, it would not derail the overall recovery prospect.

Contributions to revision in GDP growth forecasts

GDP Growth (%YoY)	2022	2023
Previous forecast (Jun 2022)	3.3	4.2
- Weaker-than-expected Q2/2022 economic outturns and more subdued growth outlook for the period ahead	-0.2	-
- Higher foreign tourist arrivals	0.9	-
- Impact of global economic slowdown	-0.4	-0.3
- Softer fiscal impulse and delays in the PPP project investment	-0.3	-0.1
Total change from previous forecast	-	-0.4
Latest forecast (Sep 2022)	3.3	3.8

The Thai economy would continue to expand at 3.3% and 3.8% in 2022 and 2023, respectively, driven mainly by private consumption and foreign tourist arrivals. The current account balance is projected to register a larger deficit this year on account of higher imports, before returning to a surplus next year.

Real GDP (trillion baht)



Growth (%YoY)	2021*	2022		2023	
		Jun 22	Sep 22	Jun 22	Sep 22
GDP growth	1.5	3.3	3.3	4.2	3.8
Domestic Demand	1.6	3.6	3.4	3.0	2.5
Private Consumption	0.3	4.9	5.6	3.6	3.3
Private Investment	3.3	5.4	3.3	4.5	3.9
Government Consumption	3.2	-1.9	-2.2	-0.5	-1.1
Government Investment	3.8	3.5	1.7	3.4	2.3
Exports of goods and services	10.4	7.1	9.1	8.2	6.5
Imports of goods and services	17.9	5.3	6.6	4.2	3.1
Current account (billion U.S. dollars)	-10.3	-8.0	-14.4	5.0	3.8
Value of merchandise exports	18.8	7.9	8.2	2.1	1.1
Value of merchandise imports	23.4	13.8	16.8	3.5	1.8
Number of foreign tourists (million persons)	0.4	6.0	9.5	19.0	21.0

Note: * Outturn

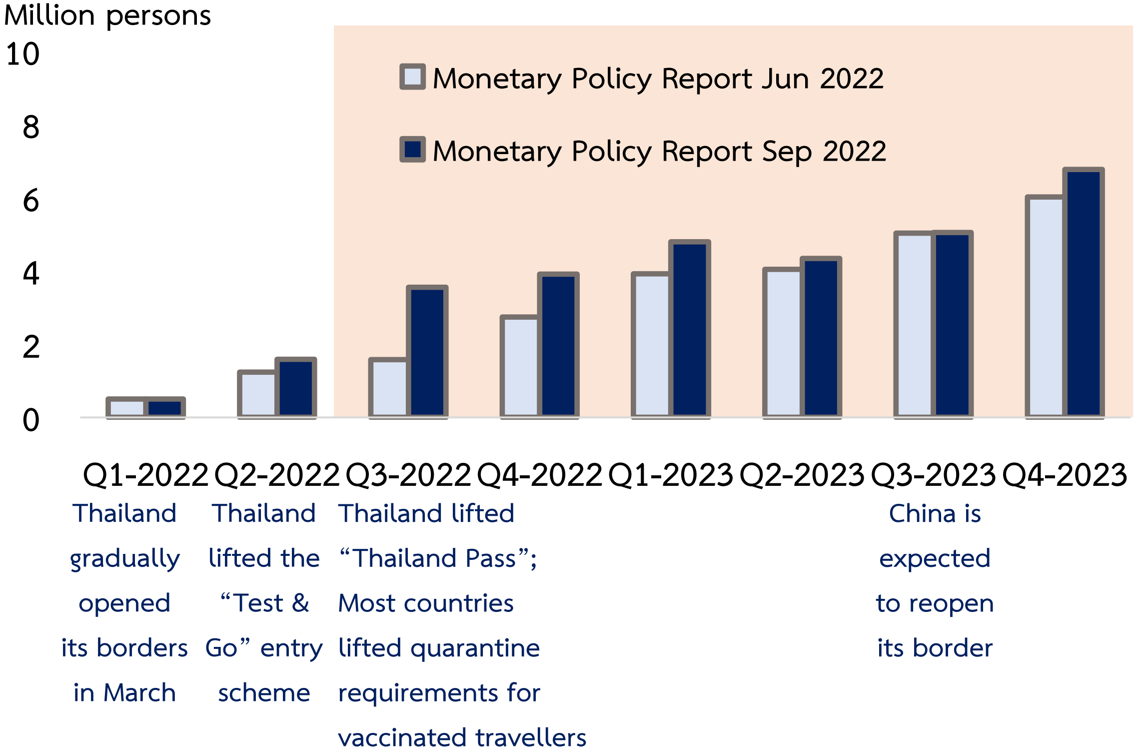
Source: NESDC, BOT forecast

Overview of economic forecasts

Economic growth (%YoY)	2022	2023
	3.3	3.8
Foreign tourist arrivals	Revised up from 6 million to 9.5 million persons on account of actual outturns and rapid indicators that turned up much higher than expected. This reflects a stronger-than-expected recovery in foreign tourist figures, especially after the government cancelled the Thailand pass program in July.	Revised up from 19 million to 21 million persons on account improved tourism confidence as the outbreak of COVID-19 gradually subsided. The global economic slowdown is expected to have a limited impact on foreign tourist arrivals in Thailand.
Private consumption	Revised up on account of the continued recovery in economic activities underpinned by tourism and private consumption. However, private consumption is facing headwinds from high living costs.	Expected to continue expanding after the outbreak of COVID-19 subsides. Employment is also expected to gradually recovery in tandem with tourism, thus resulting in improvements in income and household purchasing power.
Merchandise exports (Value)	Revised up on account of higher export prices as commodity prices have remained high in recent periods. Export quantity of many goods would still register a positive growth despite some slowdown in line with more subdued trading partners' growth outlook. Particularly, agricultural and processed agricultural products would benefit from the ongoing food shortages.	Revised down on account of lower export quantity due to the economic slowdown among major trading partners. Export prices would be largely unchanged.
Private investment	Revised down on account of lower-than-expected investment outturn in Q2/2022, but is expected to continue expanding in line with the gradual recovery in tourism and domestic demand growth. Downside risks to private investment growth would stem from possible delays in some public-private partnership (PPP) projects.	

The number of foreign tourist arrivals is revised up due to higher-than-expected tourism demand, especially after the removal of Thailand Pass registration in July 2022

Foreign Tourist Arrivals Forecast



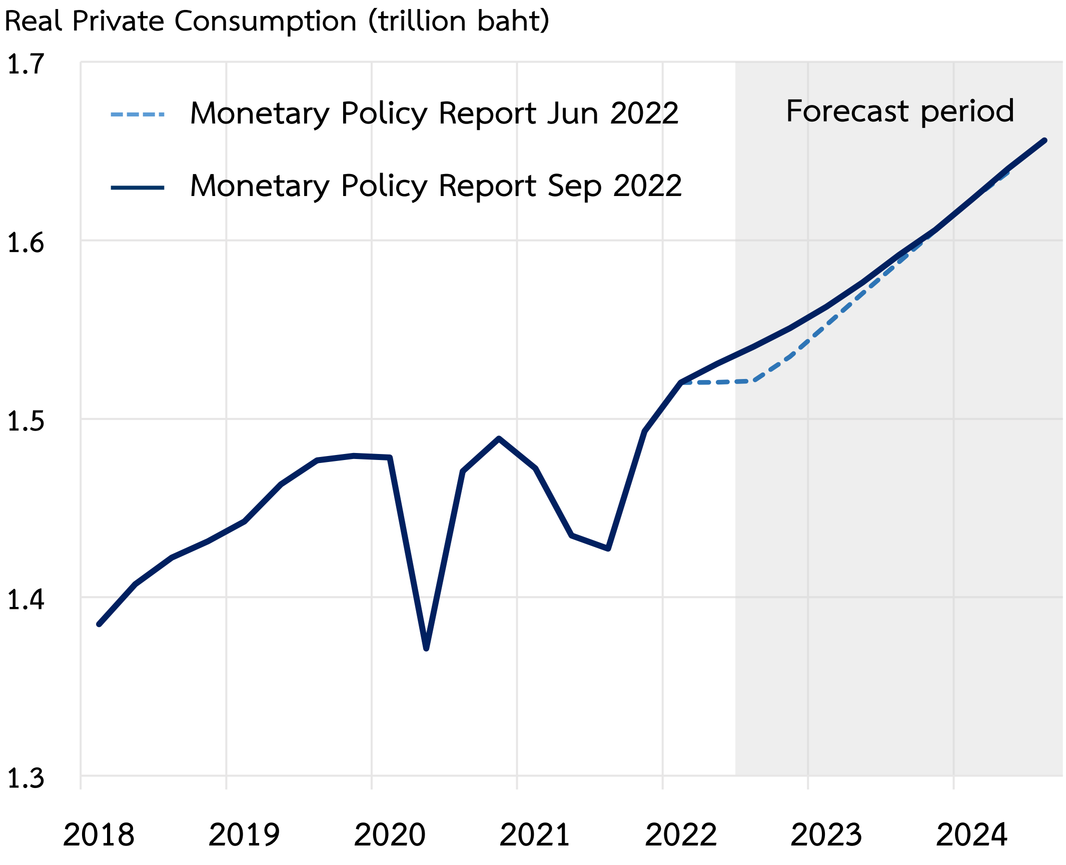
Source: BOT forecast

	2022		2023	
	Jun 2022	Sep 2022	Jun 2022	Sep 2022
Million persons	6.0	9.5 ⬆	19.0	21.0 ⬆
% compared to 2019 figures	15.2%	23.9%	47.7%	52.5%

- **Tourism recovered markedly after the removal of Thailand Pass.** This is consistent with foreign tourist figures in Q3/2022 which would be higher than previously assessed.
- **Foreign tourist figure projections for 2022 and 2023 are revised up** on account of higher-than-expected outturns in foreign tourist arrivals and growing tourism demand, especially among short-haul tourists (exclu. Chinese tourists). China would likely permit its citizen to travel abroad in the latter half of 2023, and Chinese tourists would resume their travel to Thailand in Q4/2023 which is later than previously assessed.

Private consumption would recover more strongly than previously assessed, especially spending in tourism-related services. Meanwhile, high living costs would weigh on consumption, especially for low-income households.

Private Consumption Forecast



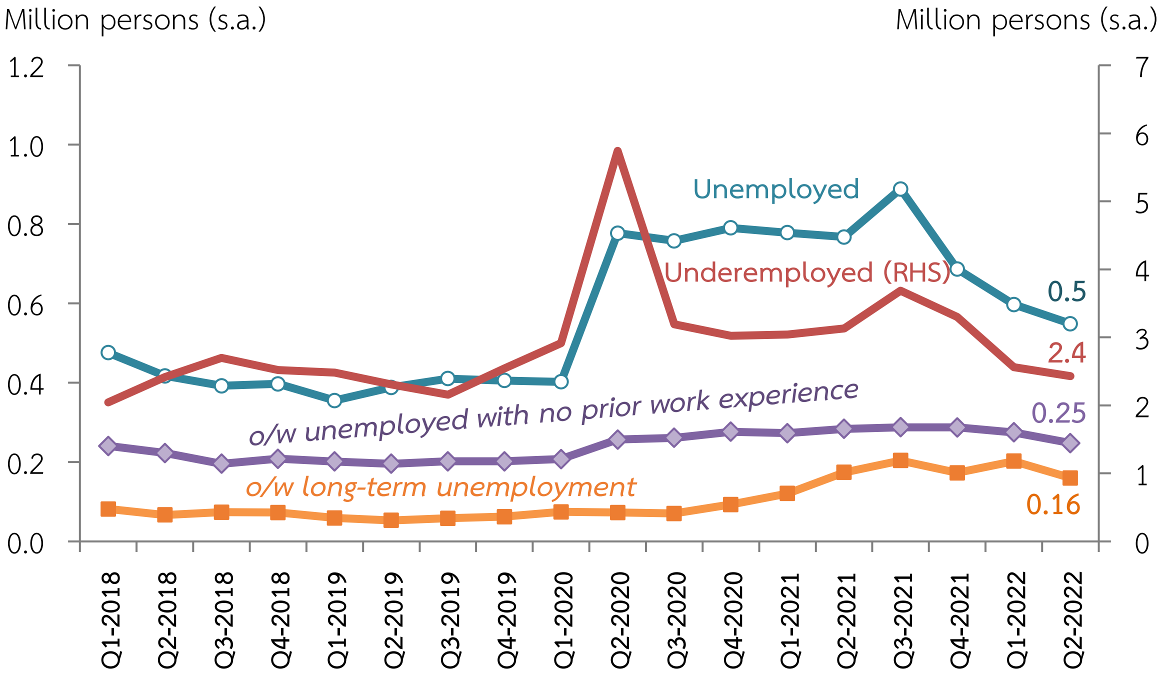
Source: BOT forecast

- **Private consumption is expected to register a stronger growth in 2022 than previously assessed**, especially spending in tourism-related services, despite some slowdown in the second half of the year as pent-up demand wanes.
- **High-income households still have the capacity to spend in the period ahead** as their incomes are unaffected by the COVID-19 outbreak and their savings are high.
- **However, high living costs would weigh on household consumption, especially for low-income households** despite government measures that somewhat help support their purchasing power.
- **Private consumption is expected to continue expanding in 2023 at a rate close to the previous assessment** as employment and household income are gradually improving in tandem with the economic conditions.

Labor market conditions have improved continuously in line with economic activities, and would help support private consumption.

Unemployment and underemployment continued to decline in Q2/2022. The numbers of the unemployed with no prior work experience and long-term unemployment started to decline, reflecting improvements in employment conditions. This is also consistent with **the rising number of insured persons under Section 33 of the Social Security Act in August 2022.**

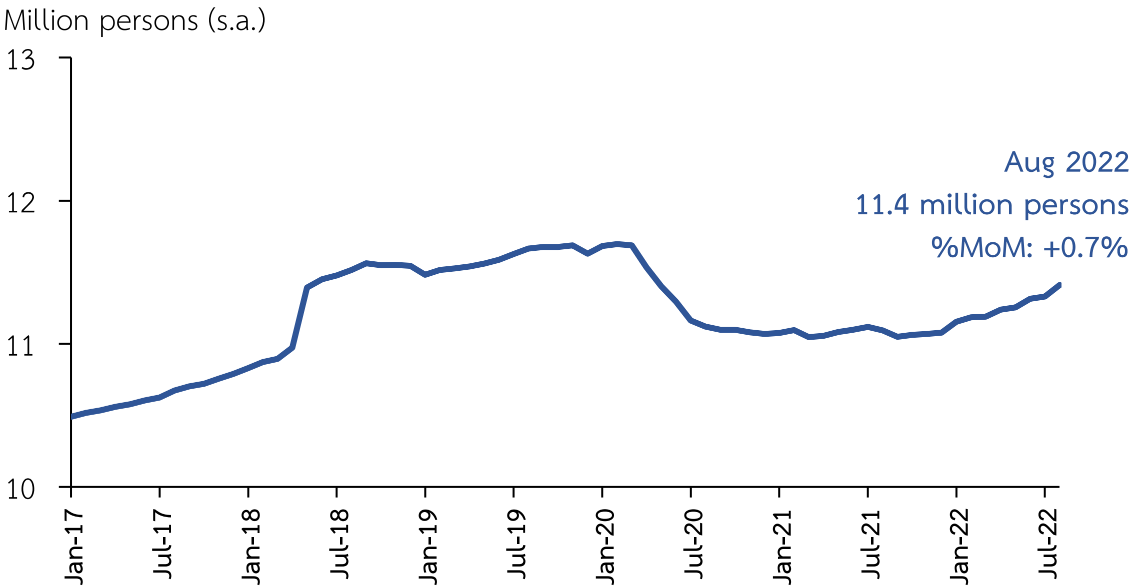
Labor Market Indicators



Note: Long-term unemployment is defined as being unemployed for longer than 1 year. Underemployment is defined as those who work less than 4 hours per day. Data has been revised per the NESDC's Report of the Population Projections for Thailand 2010-2040 (Revision).

Source: National Statistics Office's Labor Force Survey, BOT calculation

Insured persons under the social security system (section 33)



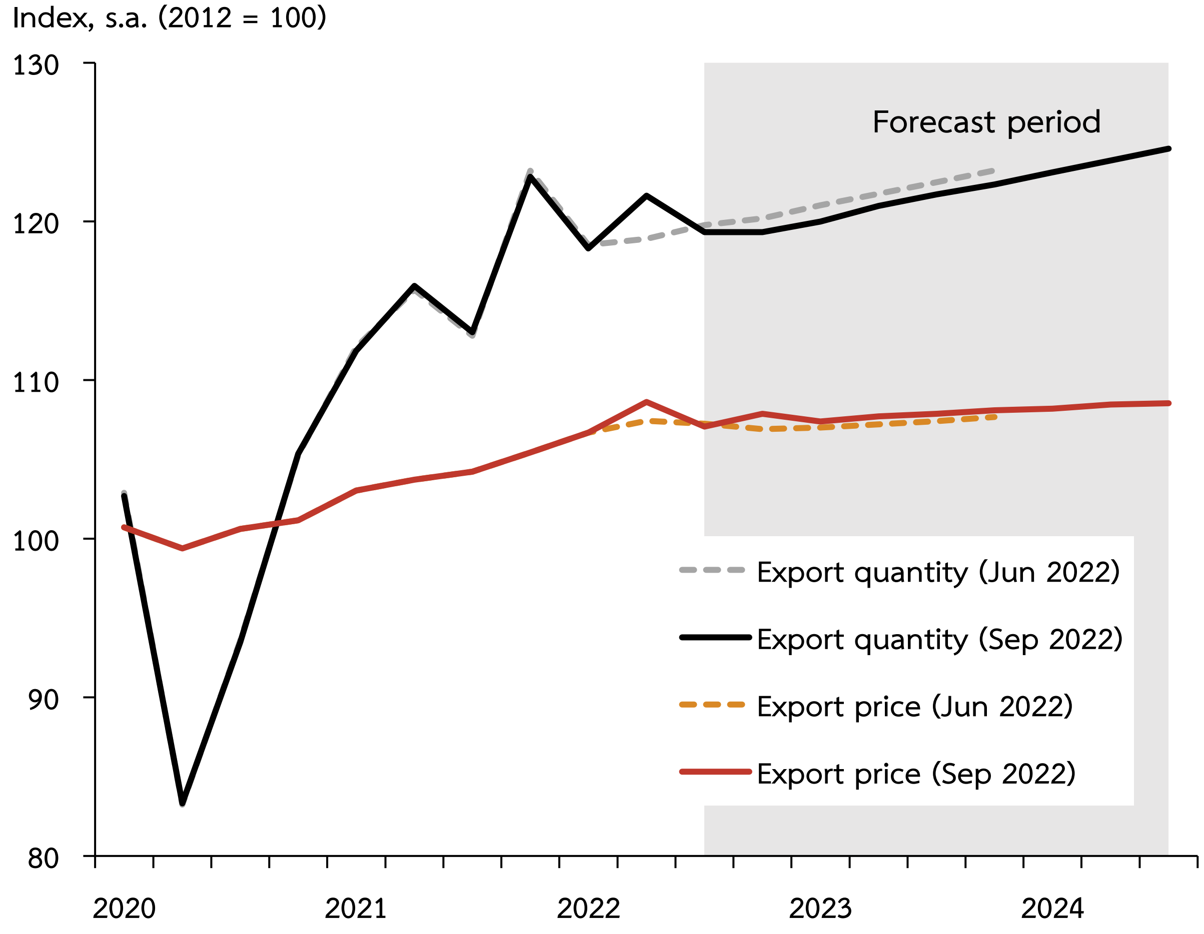
Note: Insured person under section 33 refers to an employee ages 15 to 60 from the date the employee starts working for a company with one or more employees

Source: Social Security Office, BOT calculation

Box 1: Implications of labor shortages and the minimum wage increase for inflation

Value of merchandise exports would grow at a slower pace in H2/2022 and 2023 than previously expected.

Export quantity and price outlook (excluding gold)



Source: The Customs Department and the Ministry of Commerce, BOT calculation

The value of merchandise exports in 2022 is revised up on account of higher-than-expected outturns in the second quarter. This is driven by both higher export prices due to rising global commodity prices such as oil, agricultural products, food, steel, and chemicals, as well as by larger quantity, especially exports of agricultural products to China and exports of food to Europe. **Export growth in the latter half of 2022 is expected to be weaker than previously expected both in terms of prices and quantity** due to (1) falling demand from trading partners especially the U.S., Japan, and China, (2) lower agricultural outputs following the end of harvest season, and (3) declining export prices in tandem with energy and commodity prices.

The value of merchandise exports in 2023 is revised down from lower export quantity mainly due to the economic slowdown among trading partners. Export prices are projected to be largely unchanged from the previous assessment.

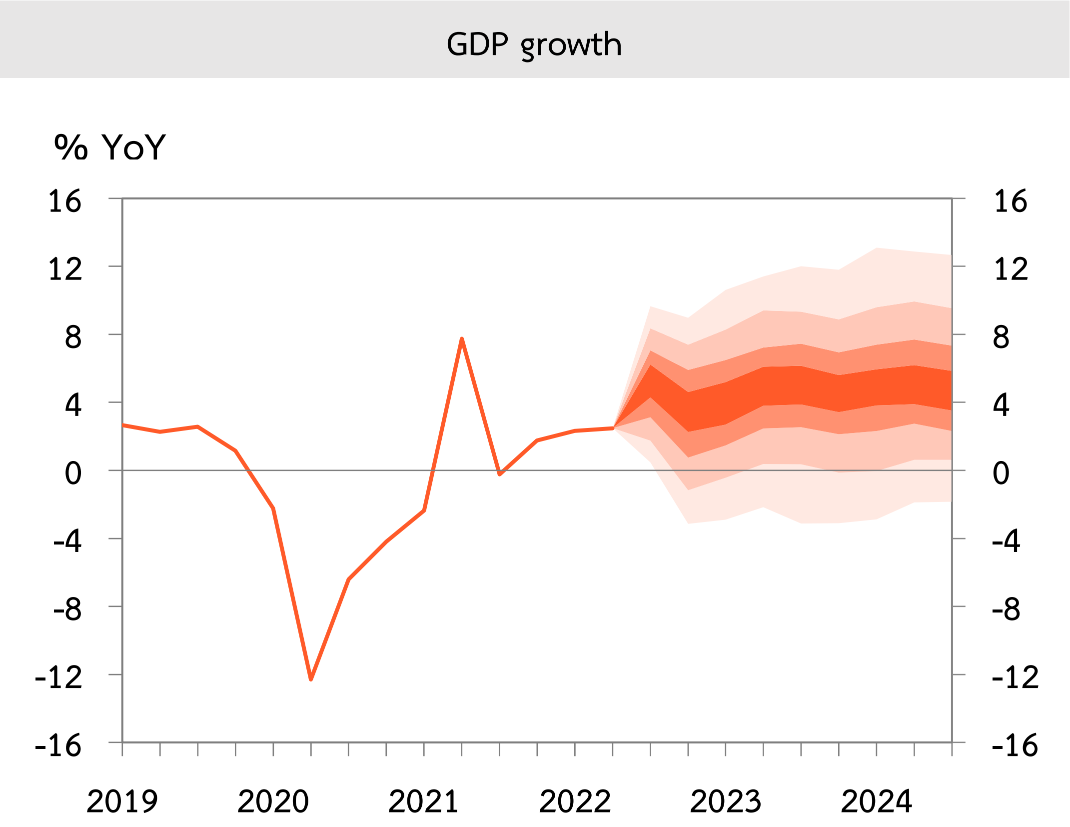
Risks to the export outlook include (1) global economic slowdown and problems in China's real estate sector which could result in slowing exports of some goods such as iron and chemicals and (2) potentially larger-than-expected decline in commodity prices.

Merchandise exports forecast

Growth (%YoY)	Export value	Export price	Export quantity
2022	8.2 (7.5)	3.7 (3.2)	4.3 (4.2)
2023	1.1 (2.1)	0.1 (0.2)	1.0 (1.9)

Note: ( ) Jun 2022 forecast

Probabilities that GDP growth could outperform or underperform the baseline projection are largely equal. Upside risks include foreign tourist arrivals and private investment which could be higher than expected, while downside risks include global economic slowdown and policy rate hikes by central banks around the world.



Factors that could result in growth outperforming the baseline

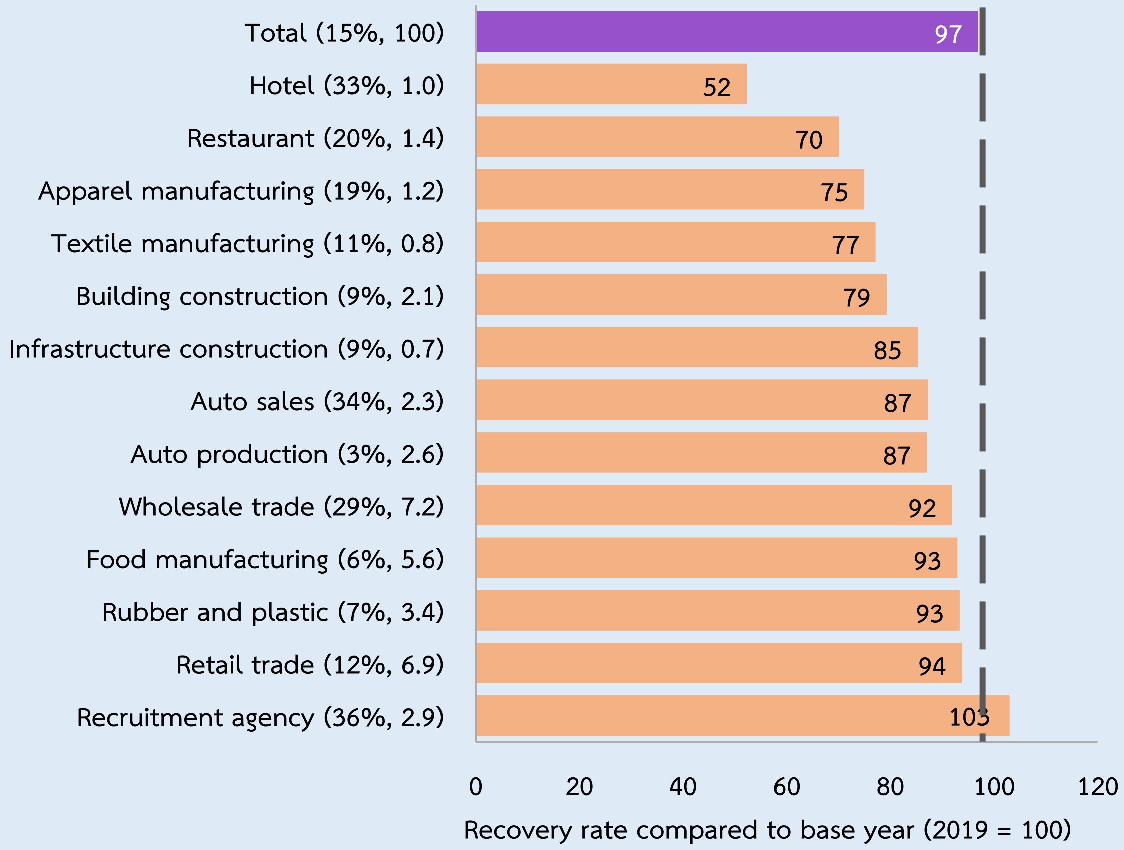
- Foreign tourist arrivals could rebound more than expected following the relaxation of international travel restrictions and rising demand for Thailand tourism.
- Private investment could be higher than expected on the back of projects that are awaiting approval to commence construction as reflected in rising number of areas seeking for construction permits. In addition, some public private partnership (PPP) projects are ready to operate and could commence sooner than expected.

Factors that could result in growth underperforming the baseline

- Growth slowdown among trading partners and policy rate hikes by various central banks could have a larger impact on global economic recovery than expected, especially for advanced economies, which would in turn affect Thai exports and investment going forward.
- Global supply disruptions could last longer than expected. This could impede the recovery in the manufacturing sector to a point that income and private consumption would also be affected.

Box 1: Implications of labor shortages and minimum wage increase for inflation

Chart 1: Recovery in the number of employees under the social security system (section 33) as of Q2/2022



Tourism and economic recovery over the recent periods resulted in a continued improvement in labor demand and labor market conditions since Q4/2021. This is reflected in quantitative indicators of labor market conditions including rising employment and working hours, as well as wage indicators. Such increases were partly due to **tight labor market conditions in certain sectors that are facing labor shortages.** About 3 million of Thai and migrant workers have relocated to their hometown since the COVID-19 outbreak. Most of them have yet to return to economic areas. Among those, some Thai workers may have become self-employed as reflected in the number of insured workers under Section 33 of the Social Security Act which remained well below the pre-COVID levels, especially in hotel, restaurant, construction, textile, and retail sale sectors **(Chart 1).** Improving economic activities in those sectors prompted employers to gradually raise wages to attract enough workers so that businesses could keep up with increasing demand. Against this backdrop, **the hourly wage growth (%YoY) in the private sector has increased from 2.4% in Q1/2022 to 3.8% in Q2/2022.**

Notes: ( ) denotes 1) each sector's share of labor cost to total cost and 2) each sector's number of employees as a percentage of total employees under the social security system in 2021

Data of employees under the social security system is the average number in Apr – May 2022 and only labor-intensive industries are displayed

Source: Social Security Office, 2017 Industrial Census, 2020 Business Trade and Services Survey, Input-output table and BOT calculation

Box 1: Implications of labor shortages and minimum wage increase for inflation

Looking ahead, wages could rise further due to labor shortages and the minimum wage increase that would take effect in October 2022 across all 77 provinces whereby the minimum wage would increase by an average of 5% from 321 baht/day to 337 baht/day. **However, overall wages may not increase that much** because

- The labor shortages are easing. There are **signs that Thai workers[1] are returning to economic areas, while the number of migrant workers under the MOU has been increasing** especially after Thailand opened its borders and relaxed entry requirements for migrant workers in June 2022. This helped ease labor market conditions in some sectors and prevent wages from accelerating beyond current levels.

- The minimum wage increase would have limited impact on overall wages. **The average wage is expected to increase by only 2.3%[2], mainly from an indirect effect** from employers' adjustment of the wage structure for all workers including those who are receiving wages above the new minimum wage. The overall impact is expected to be small as wage increase for such a group will be smaller compared to the increase applied to workers who are receiving wages close to the new minimum wage. **The direct effect is also expected be limited** as most workers are receiving wages above the new minimum wage.

  Currently, there are only 2.1 million workers (about 15% of total private, non-farm workers) receiving wages below the new minimum wage[3]. Most of them are in construction, commerce, personalized services, restaurants, and food manufacturing sectors **(Chart 2)**, and are working in small businesses where the employers may have limited capacity to raise wages. Notwithstanding, the minimum wage increase would help retain and attract migrant workers, and thus help ease labor shortages because about half of migrant workers are receiving wages below the new minimum wage.

The impact of the minimum wage increase on workers will vary across areas. In key economic areas such as Bangkok and vicinity where the wage increase is largest at 6.65%, more than 90% of workers are already paid above the minimum wage. On the contrary, workers in border or agricultural areas such as Pattani, Narathiwat, and Chaiyaphum would benefit more because of the higher proportion of workers who are paid below the minimum wage compared to key economic areas.

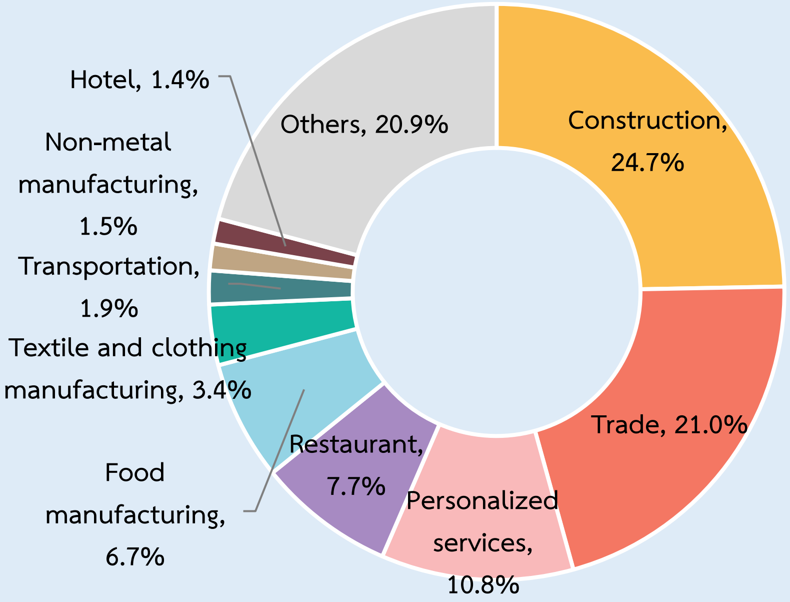
1/ Thai workers have been returning to economic areas since Apr-Aug 2022, totaling about 230,000 persons.

2/ A study on the impact of the minimum wage increase found that a 1% increase in the minimum wage would result in a 0.46% cumulative increase in the average wage of non-farm workers within 1 year after the minimum wage is increased.

3/ Calculated from the number of non-farm workers who are receiving wages below the new minimum wage in each province as of Q2/2022.

Box 1: Implications of labor shortages and minimum wage increases for inflation

Chart 2: Distribution of employees whose wages are below the new minimum wage (as of Q2/2022)



Source: Labor Force Survey, National Statistical Office, calculated by BOT

The passthrough of higher wages to inflation is assessed to be limited, and the likelihood of a wage-price spiral is considered low. This is because **(1) most Thai workers are farmers and self-employed whose incomes are from sales of goods and services, not wages**. Non-farm workers who are receiving wages account for only 44% of total workers[4], which is significantly lower than in other countries[5], **(2) the share of labor costs to total production costs of businesses is generally low**, averaging at about 15%, and **(3) businesses are unable to fully pass on the higher costs to consumers** because demand has yet to fully recover. Some firms may not raise prices further as they have already done so to cover the higher costs of raw materials which are a large part of their total production costs[6].

In summary, although labor shortages in certain sectors and the minimum wage increase could create upward pressures on wages, the easing labor shortages would help limit the increase in wages going forward. The passthrough of higher wages to inflation and the likelihood of a wage-price spiral remain limited due to small share of non-farm workers in the Thai labor market, low share of labor costs to total production costs, and limited cost passthrough to consumer prices.

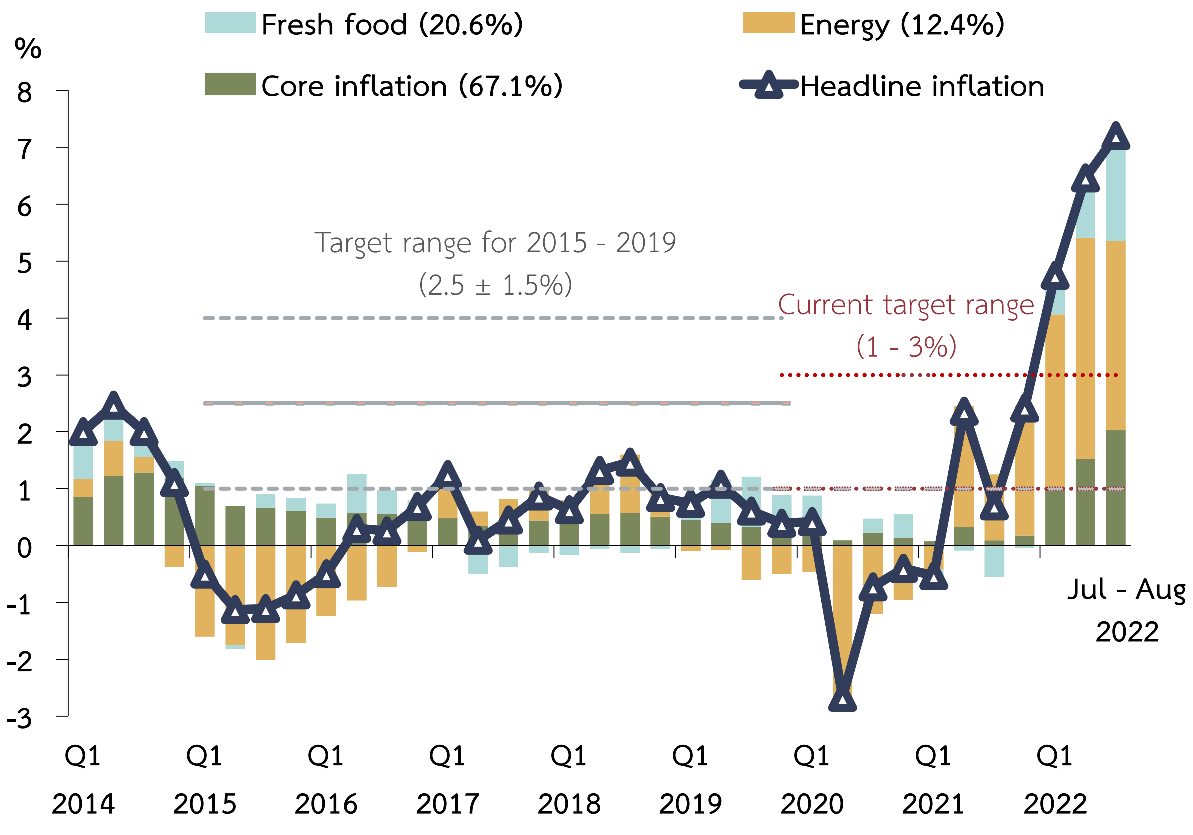
4/ Data of the average number of non-farm workers in 2021 from the National Statistics Office, calculated by BOT

5/ In foreign countries such as the U.S. and Germany, the share of non-farm workers is as high as 90% of total workers. The minimum wage increase thus has a broader impact on the labor market (Data from BLS and CEIC, calculated by BOT)

6/ In line with the views that are expressed by various businesses during discussion session and in their survey responses conducted by BOT

Headline inflation in the first two months of Q3/2022 increased from the previous quarter. The increase is mainly attributable to higher fresh food prices and core inflation, while energy prices have declined.

Headline Inflation and Inflation Target



Note: ( ) denotes weight in CPI basket

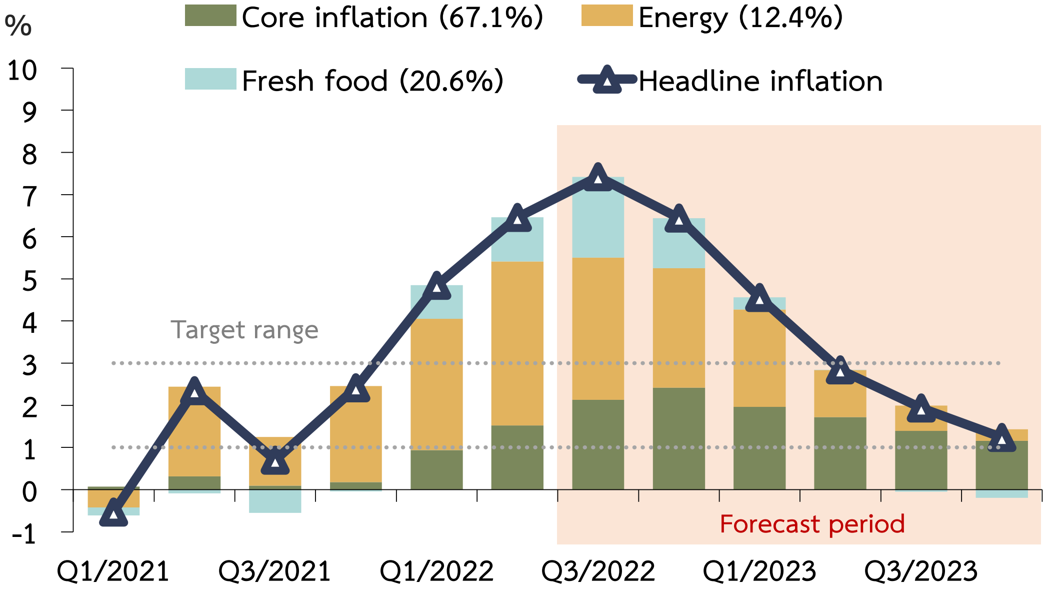
Source: Ministry of Commerce, calculated by BOT

Headline inflation in the first two months of Q3/2022 averaged 7.74%, up from 6.46% in the previous quarter due to fresh food prices and core inflation. An increase in fresh food prices was due to (1) lower supply of vegetables and fruits as a result of weather fluctuations and high transportation costs and (2) higher meat prices in line with rising feed costs. **Meanwhile, energy prices have declined** on account of lower retail gasoline prices in tandem with the declining global crude oil prices.

Core inflation in the first two months of Q3/2022 averaged 3.07%, up from 2.27% in the previous quarter mainly due to food prices as prepared food prices rose in line with raw material costs. Inflation in non-food categories also increased slightly from higher tuition fees and water utility costs which have a low base in the previous year due to government measures. Prices of public transportation, cleaning supplies, and personal care products also increased due to high input costs.

Headline inflation is expected to average 6.3% in 2022 and 2.6% in 2023. Energy prices would decline due to falling global crude oil prices and the impact of government support measures. Fresh food prices and core inflation are expected to increase from higher cost passthrough.

Contribution to Headline Inflation



Note: ( ) denotes weight in CPI basket

Source: Ministry of Commerce, BOT calculation and forecast as of Sep 2022

	2022	2023
Headling inflation	**6.3%** (6.2%)	**2.6%** (2.5%)
Core inflation	**2.6%** (2.2%)	**2.4%** (2.0%)

Note: ( ) previous forecast from Monetary Policy Report June 2022

Supply-side inflationary pressures would decline gradually

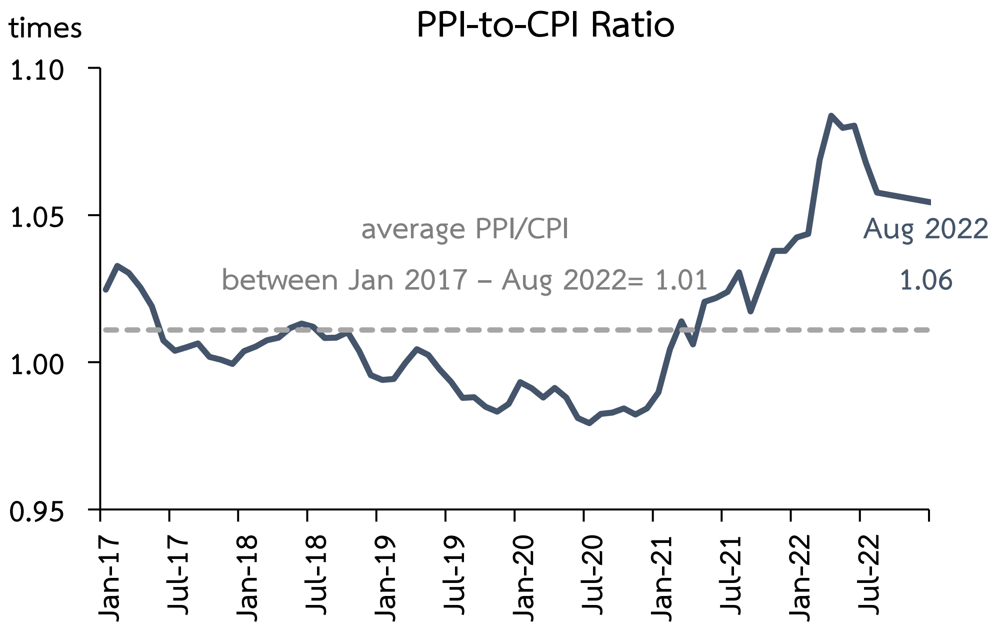
- Global commodity prices have mostly declined as supply chain disruptions are easing, except for natural gas.
- Looking ahead, domestic retail oil prices are expected to fall as **global crude oil prices** decline due to slower-than-expected global economic growth and higher-than-expected oil supply from Russia. Both factors have helped ease oil market tightness. In the short term, domestic oil prices would likely fall as the government has extended the excise tax cut for diesel by 5 baht/litre from Sep 2022 until Nov 2022.
- Electricity costs are expected to increase gradually because of the two reasons.
  1. **High natural gas prices in the global market would have a little impact on electricity costs.** Imported LNG accounts for only 11% of total fuel sources used in electricity generation*, about half of which is acquired through long-term contracts.
  2. **Electricity cost subsidies** whereby the fuel tariff (Ft) is reduced for households using less than 500 kWh/month during Sep-Dec 2022

Note: *Natural gas accounts for 55% of total fuel sources used in electricity generation, 63% of which is extracted from the Gulf of Thailand, 21% is imported LNG, and 16% is imported from Myanmar (Data as of 2021 from the Office of the Energy Regulatory Commission)

Cost passthrough could be limited in the period ahead as supply-side pressures would likely dissipate and most businesses have already passed on some of the costs to consumers. However, there remains a need to monitor cost passthrough if businesses face rising cost pressures from multiple sources simultaneously.

At present, cost pressures are declining

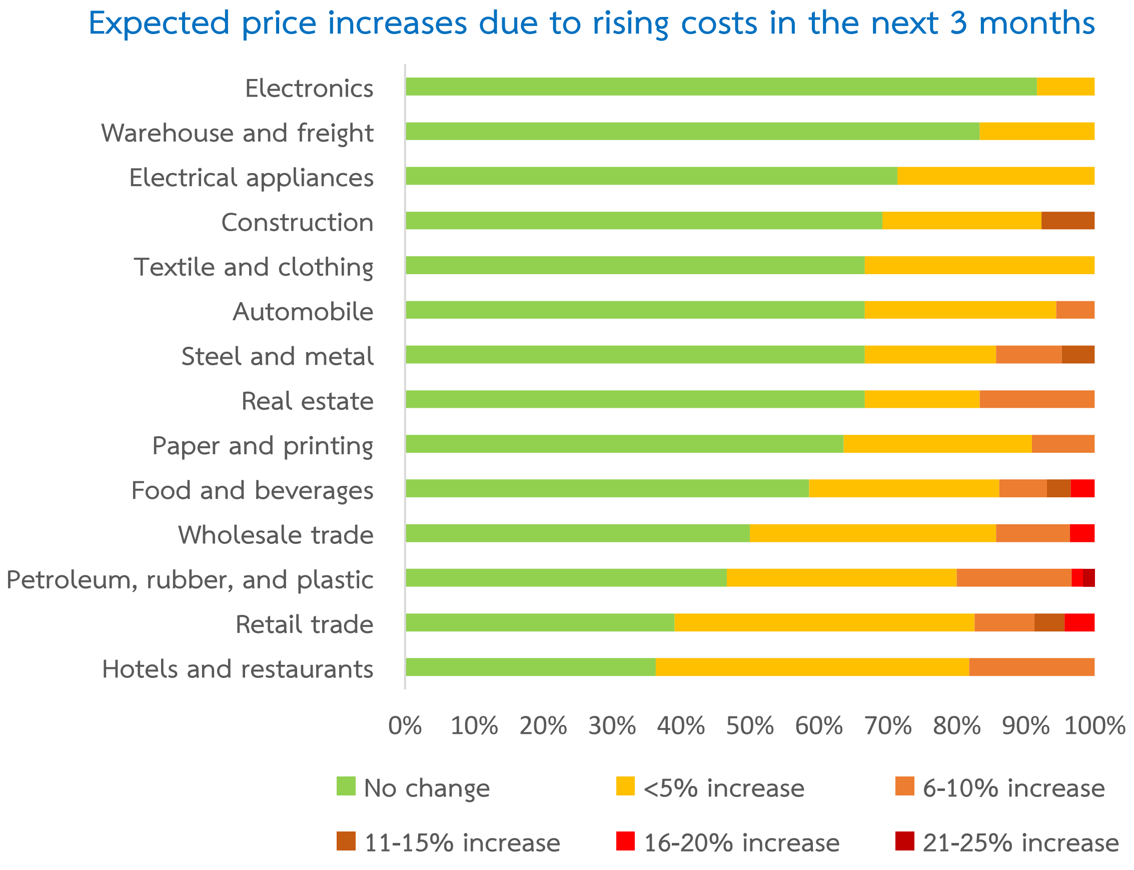
- **Producer price index (PPI) has declined** mainly due to prices of petroleum products and other industrial goods.
- **Consumer price index (CPI) has increased** partly as businesses have already passed on some of the costs to consumers. **However, there remains a need to monitor cost pressures, which are reflected in the high PPI/CPI ratio.**



Source: Ministry of Commerce, calculated by BOT

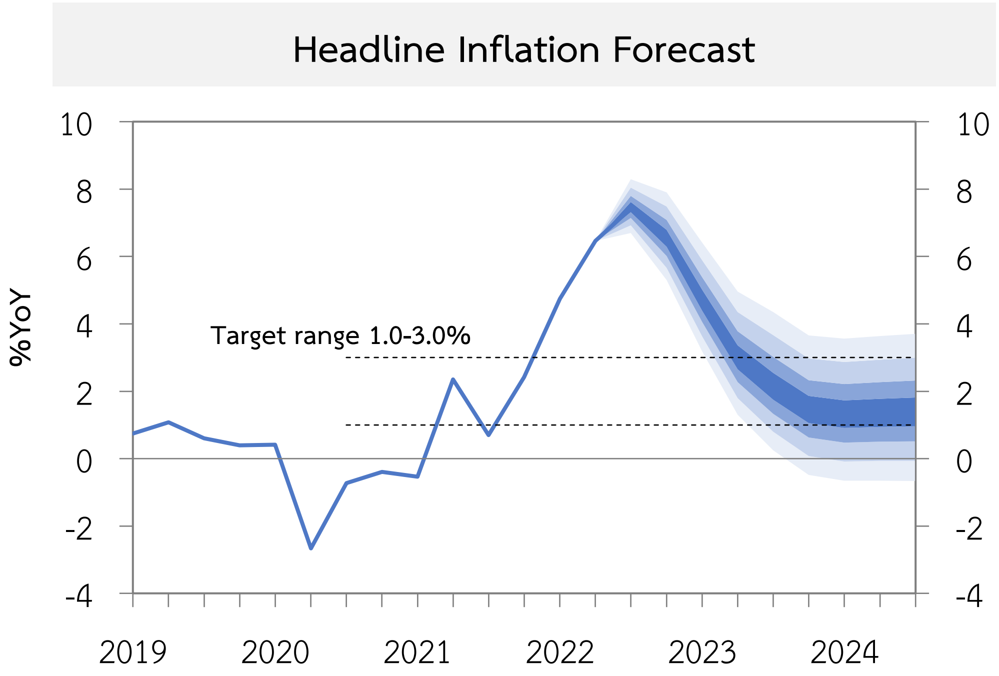
In the next 3 months, most businesses will not raise prices

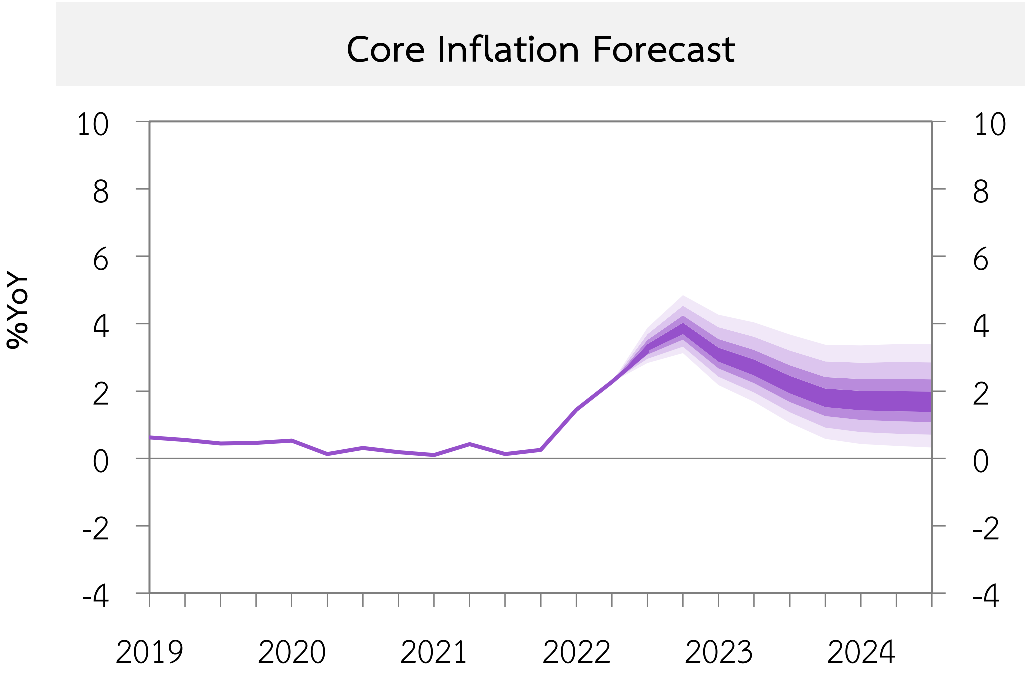
or will do so by no more than 5% of current prices.



Source: Business Liaison Program surveys conducted by the BOT between 1-25 August 2022 with 421 responses consisting of large businesses and SMEs

Probabilities that inflation would be higher or lower than the baseline projection are largely equal. While higher cost passthrough has already been accounted for in the baseline projection, there remains a need to monitor cost passthrough, wage pressure, and energy prices going forward.





Factors that could cause inflation to be higher than the baseline projection

- Higher- and faster-than-expected cost passthrough, as well as wage pressures from tight labor market conditions

Factors that could cause inflation to be lower than the baseline projection

- Slower-than-expected global economic growth which would lead to a decline in global energy prices and growth slowdown in Thailand

Summary of key forecast assumptions

Annual percentage change	2021*	2022	2023
Trading partners' growth (% YoY)[1/]	5.6	2.9 (3.4)	2.6 (3.1)
Fed funds rate (% at year-end)	0.00 – 0.25	4.25 – 4.50 (2.50 – 2.75)	4.50 – 4.75 (3.00 – 3.25)
Regional currencies (excl. China) vis-à-vis the U.S. dollar (index) [2/]	153.5	160.1 (157.0)	162.6 (156.7)
Dubai crude oil prices (U.S. dollar per barrel)	69.4	102.0 (105.0)	100.0 (105.0)
Farm income (% YoY)	3.5	12.4 (9.3)	-1.6 (-4.3)
Government consumption at current price (billion baht)	2,941	2,992 (2,973)	2,974 (2,970)
Public investment at current price (billion baht)	1,063	1,114 (1,129)	1,148 (1,177)

Note:

[1/] Weighted by each trading partner's share in Thailand's total exports

[2/] Increasing index represents depreciation, decreasing index represents appreciation

* Outturns

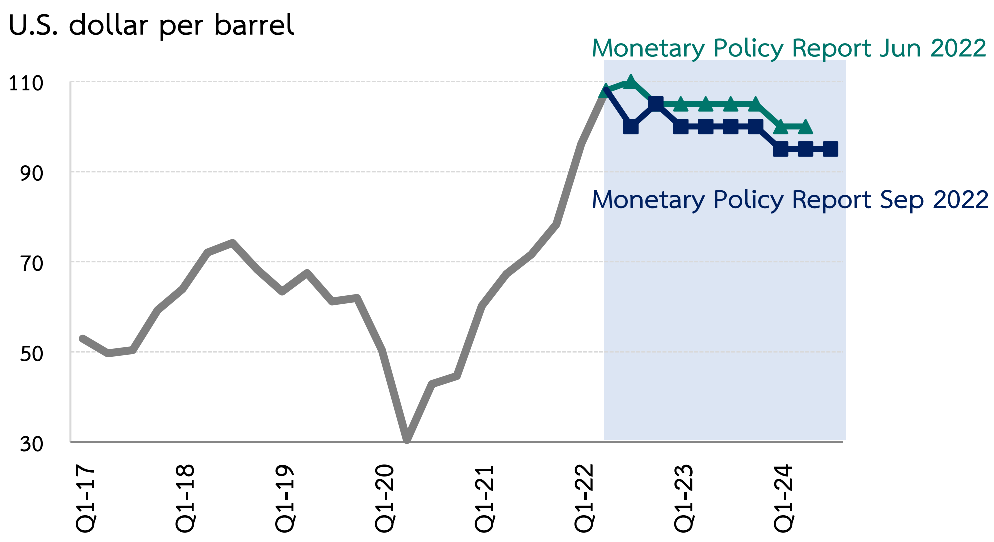
( ) previous forecast in the Monetary Policy Report June 2022

- **Trading partners' growth** is revised down throughout the forecast horizon due to monetary policy tightening to tame high inflation and China's slowing demand caused by the Zero-COVID policy and problems in the real estate sector. In addition, the prolonged Russia-Ukraine conflict continues to impact the euro area economy.
- **The Federal Funds Rate** would be raised more aggressively mainly because of inflationary pressure that turn out higher and more persistent than expected.
- **Regional currencies (excluding the Chinese Yuan)** would depreciate throughout the forecast horizon as the Fed has signalled a more aggressive policy rate hike.
- **Dubai crude oil prices** would be lower throughout the forecast horizon due to the global economic slowdown.
- **Farm income (excluding government support measures)** is revised up due to higher-than-expected outputs of many crops as well as high prices especially cassava, which is in high demand for animal feed and alternative energy productions during the period of high oil prices. Higher input costs partly contribute to price increases in some products such as pig, and cause the net profit to decline. Thus, purchasing power of farmers remains fragile.
- **Public spending at current prices** is revised down mainly on account of lower SOE investment budget in the FY2023. Government consumption spending is revised up from higher-than-expected medical expenses related to COVID-19.

Assumption for Dubai crude oil prices

Dubai crude oil prices are expected to be lower than previously assessed due to slower-than-expected global economy.

Projected Dubai crude oil prices



U.S. dollar per barrel	2021*	2022	2023
Dubai crude oil prices (annual average)	69.4	102 (105)	100 (105)

Note: *Outturn
( ) previous forecast in Monetary Policy Report June 2022

Dubai crude oil price forecasts are revised down from 105 to 102 U.S. dollar per barrel in 2022, and from 105 to 100 U.S. dollar per barrel in 2023 due to the following reasons.

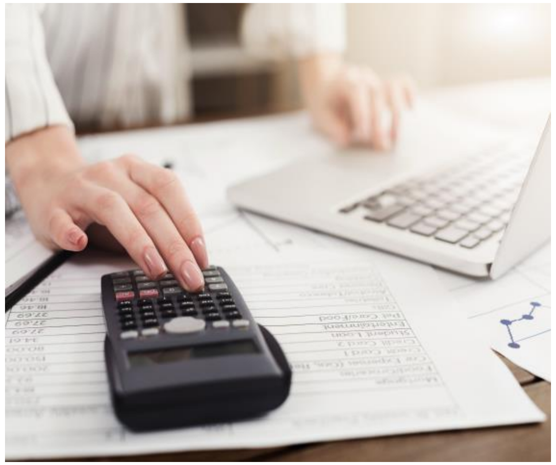
- The global economy would slow more than expected and result in lower demand for crude oil and lower actual prices than previously assessed.
- Russia's crude oil production is higher than expected as **Russia could export oil to some countries in Asia and Europe** partly because the EU had eased sanctions on Russian oil exports.

Risks to Dubai crude oil price forecasts have become balanced

- Upside risks: **The Russia-Ukraine conflict** could escalate, spread to other regions, and become more prolonged than expected. **OPEC+ could cut oil production** to prevent sharp declines in crude oil prices.
- Downside risks: **Slower-than-expected global economy and a new wave of COVID-19 outbreak** could negatively impact oil demand. **Iran may ramp up its oil production** if the nuclear agreement with the U.S. can be reached.

3. Financial conditions

Financial Conditions: Key issues



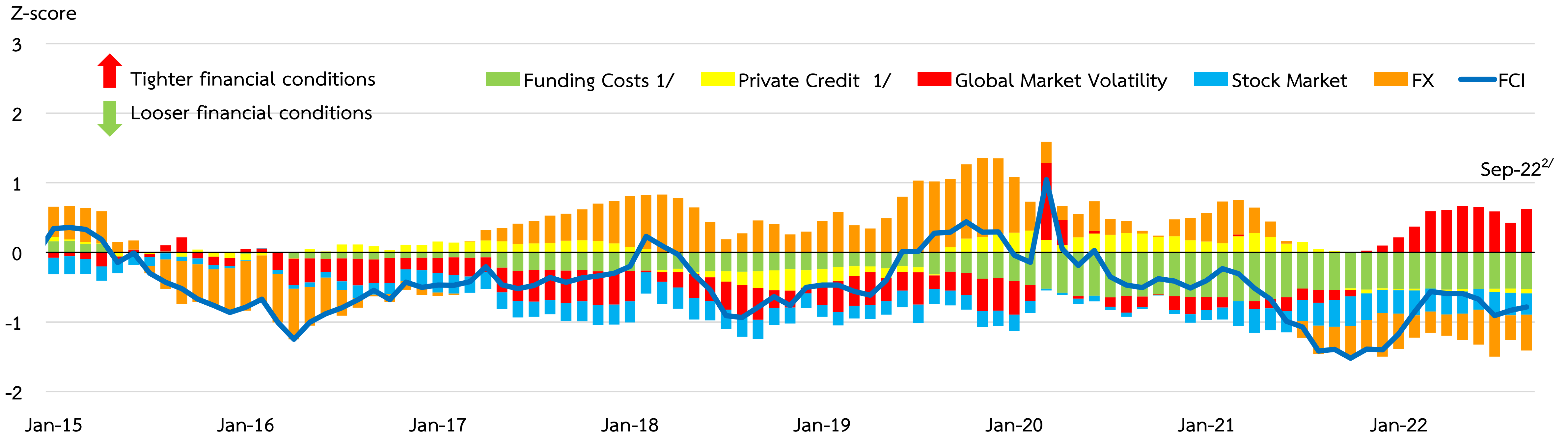
Financing costs remain low overall despite rising government bond yields in line with the MPC's policy rate hikes and US Treasury yields. Financial conditions are still conducive for for private sector financing.

Financing by businesses and households slowed in Q2/2022, but is expected to pick up in the period ahead in tandem with the recovery in economic activities.

The baht depreciated in line with regional currencies due to the U.S. dollar's strength as a result of continued monetary policy tightening by central banks in advanced economies.

Financial conditions remain accommodative overall especially from low funding costs and the baht depreciation although volatilities in the global financial market result in a slightly lower degree of accommodation. Such volatilities stem from concerns over global recession and monetary policy tightening by many central banks.

Financial Conditions Index: FCI



Notes: FCI is calculated using first principal components of both FX and non-FX financial condition indicators which are weighted by their respective sizes of accumulated impulse response on real GDP (%yoy) over 8 quarters using VAR(2) model. For funding costs and private credit categories, weights of each variable are adjusted according to its proportion in total private funding structure. Non-FX indicators include (1) funding costs, (2) private credit, (3) global market volatility, and (4) stock market.

1/ New loan rate (NLR), average of 6 banks' floating mortgage rates, and the net new loan amounts extended to businesses and households in the most recent month are assumed to be equal to the previous month's data.

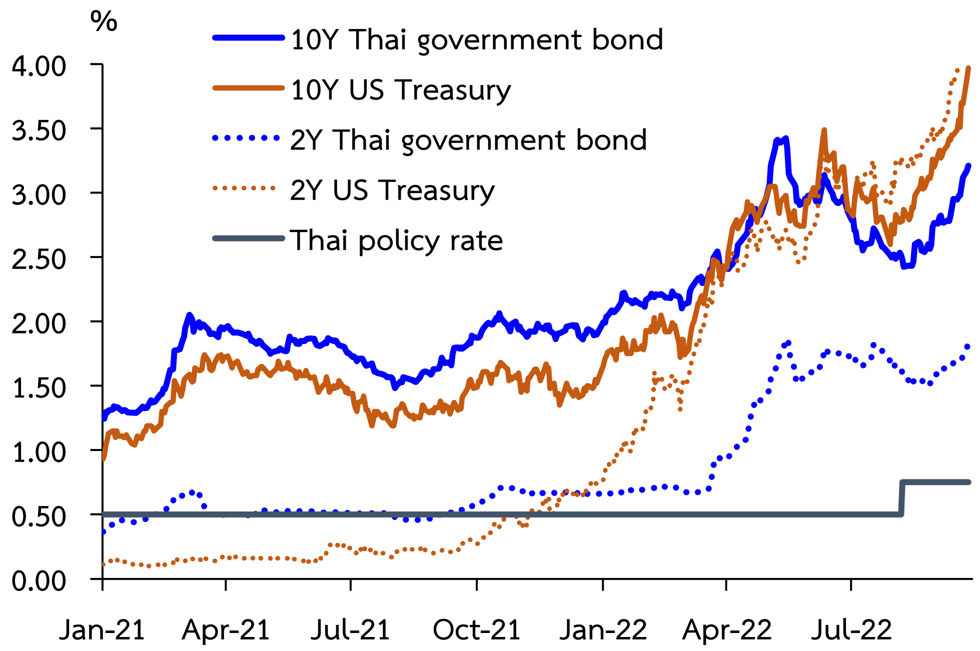
2/ Average of data points up until 23 Sep 2022

Source: Bank of Thailand

Details on the construction of the Financial Conditions Index is summarized in FAQ 184 **(only available in Thai)**

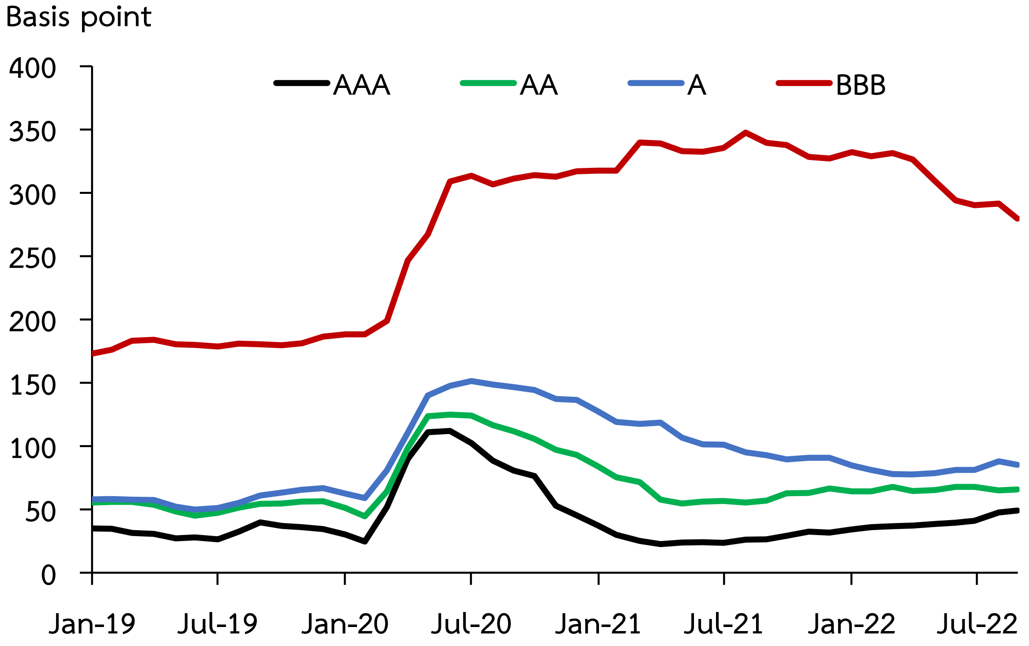
Government bond yields have increased but funding costs overall remain conducive for private sector financing.

Thai government bond and US Treasury yields



Source: Thai BMA, Federal Reserve Economic Data (FRED)
(data as of 27 Sep 2022)

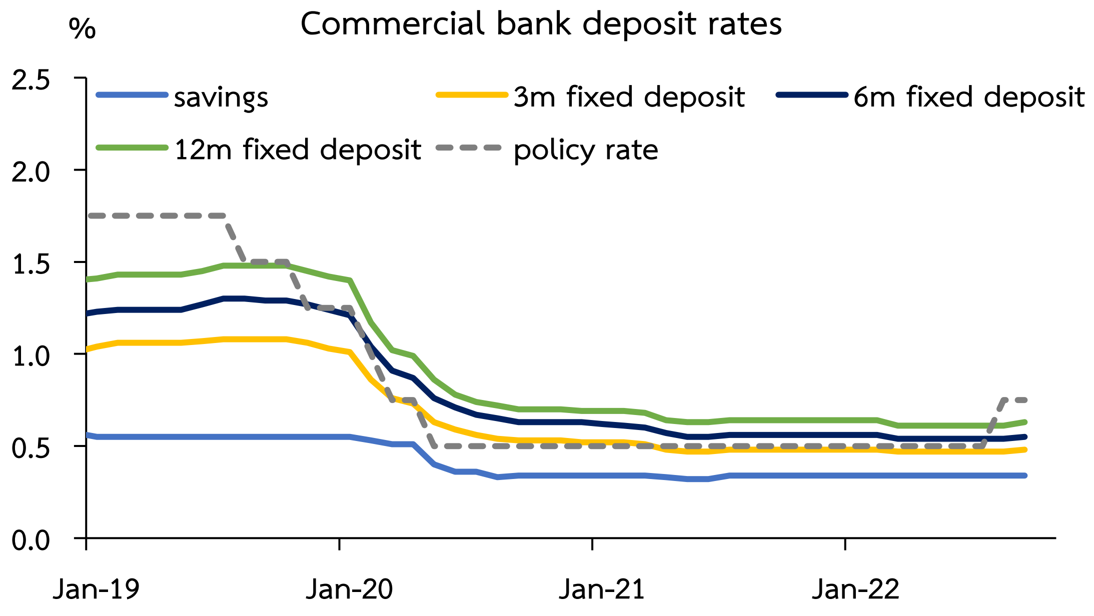
Corporate and government bond credit spread, by credit rating

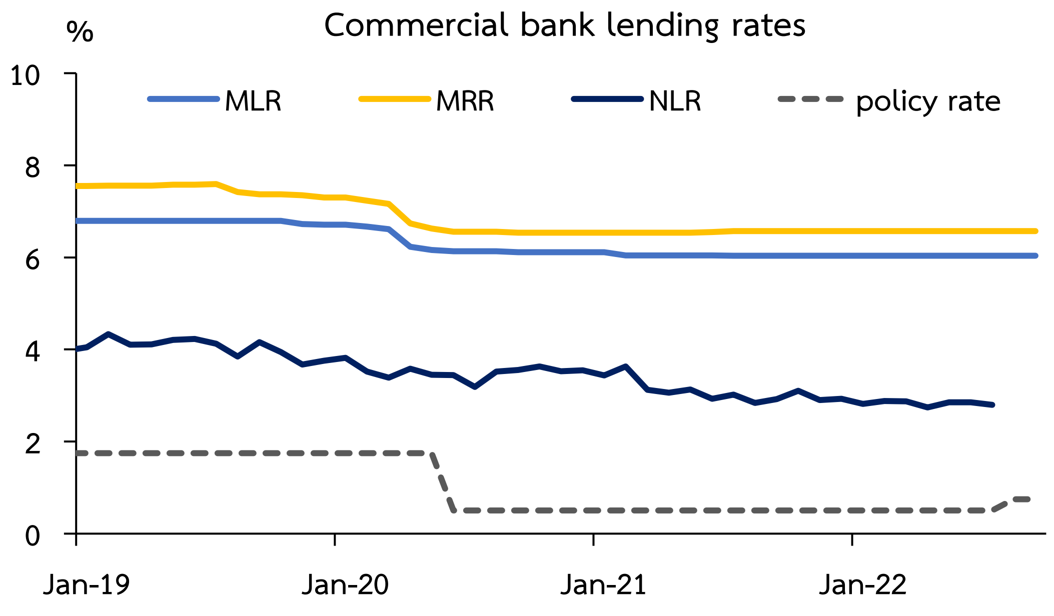


Source: Thai BMA
(data as of 27 Sep 2022)

Short-term government bond yields have been largely stable in line with the BOT communication that monetary policy will be normalized in a gradual and measured manner. **Long-term government bond yields have increased** in tandem with US Treasury yields as a result of monetary policy tightening by major central banks to curb inflation. **Credit spreads for bonds with less than 3 years to maturity** are largely unchanged overall. Credit spread for bonds with BBB credit rating declined somewhat but remain at a high level. On the whole, **higher funding costs faced by the private sector have yet to affect financing activities.** Businesses have gradually obtained financing in the prior period and are likely to continue seeking more financing as the economic recovery gains traction. Thai businesses operating abroad are also likely to rely more on domestic financing as financing costs in foreign countries are rising.

Commercial bank interest rates remain low but are expected to gradually increase in line with expectation of the policy rate path.





Notes: (1) Monthly average of 13 commercial banks (data as of 27 Sep 2022), (2) New loan rate: NLR (data as of Jul 2022)

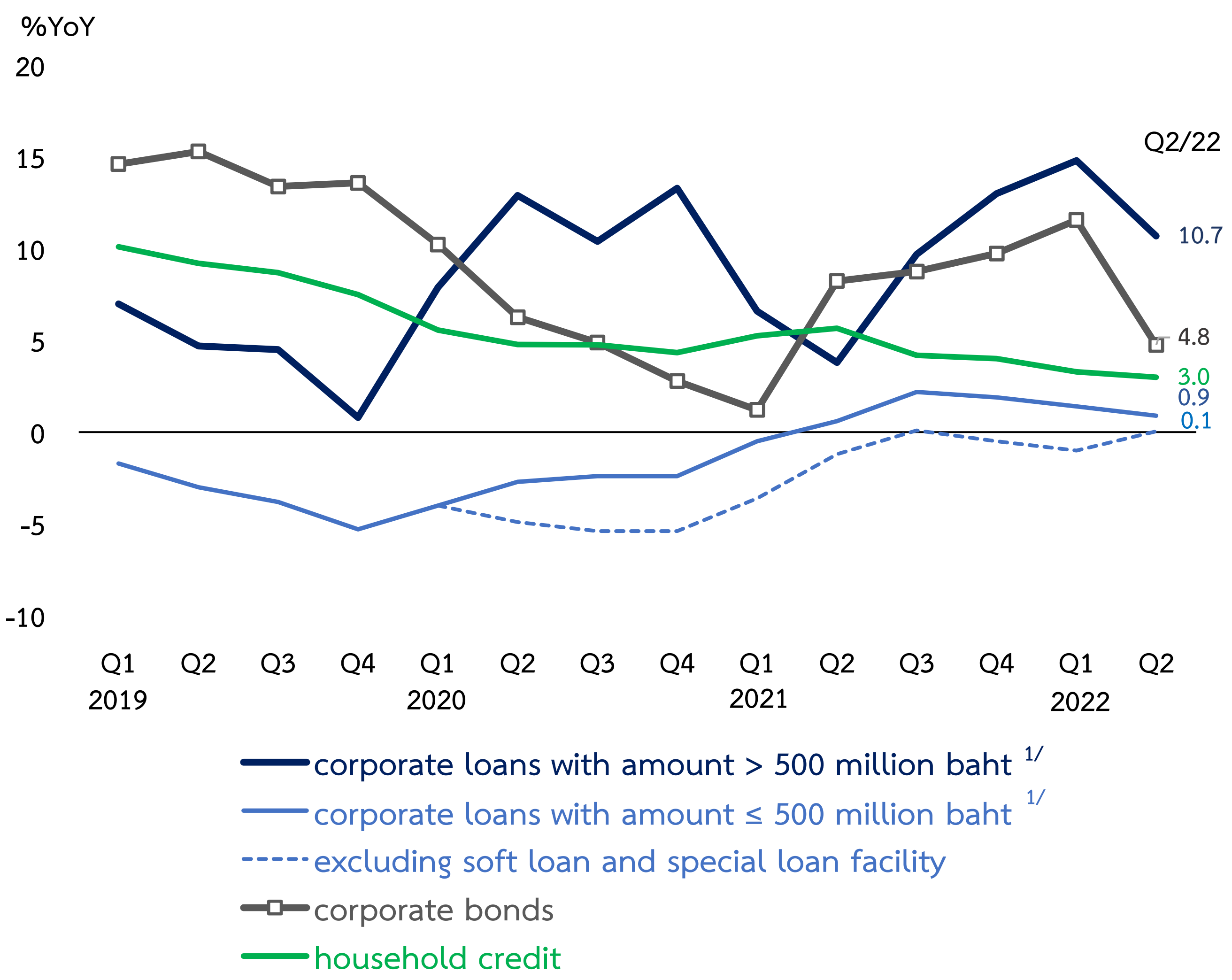
Source: BOT

After the MPC decided to raise the policy rate by 0.25 percentage point twice on 10 Aug 2022 and 28 Sep 2022 from 0.50% to 1.00%, commercial banks have gradually increased their deposit rates since the MPC meeting on 10 Aug 2022. Most commercial banks started to raise the interest rates on savings and some fixed-deposit products by 0.05-1.10%. **Commercial banks then raised lending rates** after the MPC meeting on 28 Sep 2022. Benchmark lending rates (minimum loan rate: MLR, minimum overdraft rate: MOR, and minimum retail rate: MRR) were increased by 0.25-0.40%. Looking ahead, commercial bank deposit and lending rates would be gradually raised in line with expectation of the policy rate path, the economic recovery, and the end of the FIDF fee reduction scheme at end-2022[1/]

[1/]On 7 April 2020, the BOT announced the measure of reducing FIDF fee from 0.46% to 0.23%. It was one of the financial measures that were rapidly rolled out to provide liquidity support as well as preserve macroeconomic and financial stability in response to the COVID-19 pandemic.

Private credit growth slowed in Q2/2022 but is expected to pickup in line with recovery in economic activities.

Private credit



In Q2/2022, large corporate loans (credit limit > 500 million baht) continued to expand despite some slowdown from the previous quarter. Businesses in commerce and manufacturing sectors still need liquidity for working capital as economic activities recover. Export credit growth slowed in line with the decline in merchandise exports value. Corporate bond issuances also slowed from the previous quarter as businesses have issued bonds previously to repay maturing debt and obtain working capital. Some businesses also wanted to lock in cheap financing costs given the expectation that interest rates would rise in the period ahead.

SME loans (credit limit ≤ 500 million baht) grew at a slightly slower pace and still benefited from the special loan facility, especially for businesses in commerce and manufacturing sectors.

Household credit growth slowed slightly mainly for mortgage loans. Growth in credit card loans continued to accelerate given liquidity need to cope with higher living costs.

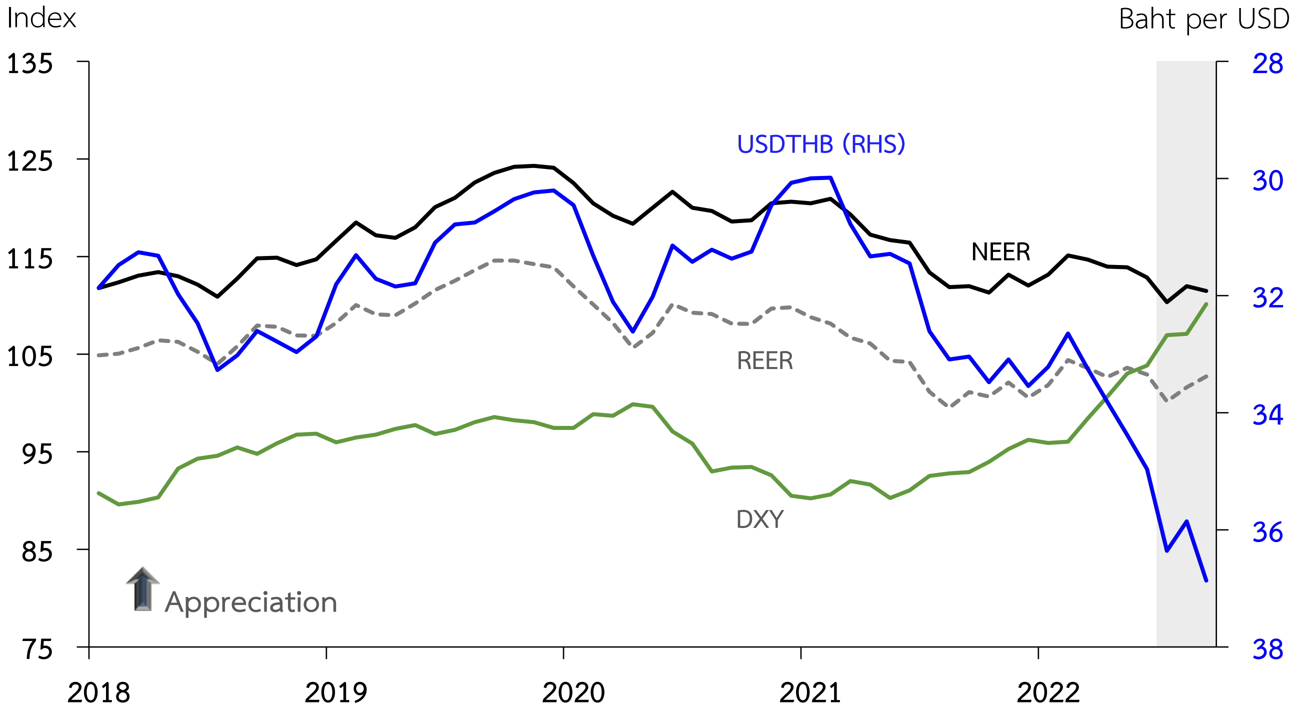
For Q3/2022[2/], loan demand would likely increase, especially from businesses in the manufacturing and services sectors, driven by the need for working capital to finance business operations and replenish inventory in anticipation of rising production costs. Household credit is expected to pick up due to improving consumer confidence in line with the economic recovery and rising liquidity demand amidst higher living costs.

Note: [1/] Credit limit at each commercial bank (financial services businesses are excluded)
[2/] Report on Credit Conditions Q2/2022 and Outlook for Q3/2022 (only Thai version)

The baht has depreciated in line with regional currencies owing to the Fed's more aggressive monetary policy tightening to control inflation.

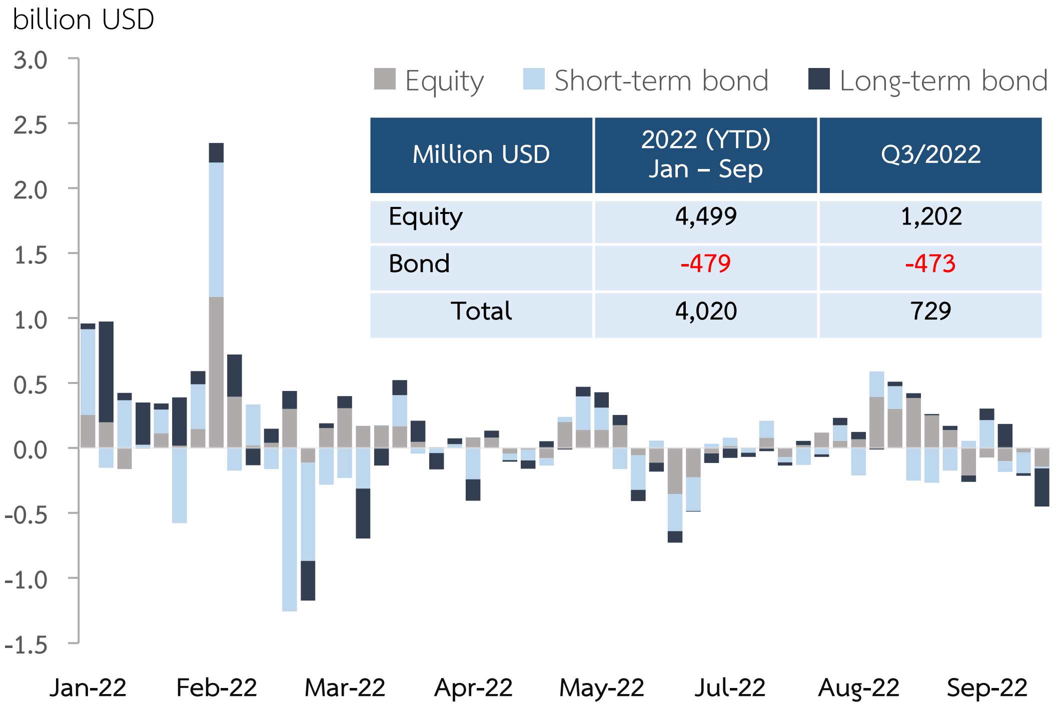
- **In Q3/2022, the baht averaged 36.33 baht per U.S. dollar, falling from the previous quarter in line with regional currencies. Meanwhile, global financial market volatilities have heightened** after the Fed signalled a continue policy tightening to tame high inflation, resulting in a strengthening U.S. dollar. To date, the baht has depreciated by 12.1% since the beginning of 2022 and moved in line with most regional currencies. Thailand is currently seeing a net capital inflow, particularly the net inflow into the stock market in tandem with expectations of the economic recovery in the latter half of the year. The Thai bond market saw a slight net outflow in Q3/2022.
- **The nominal effective exchange rate (NEER) averaged 113.67,** falling by 1.96% from the previous quarter mainly due to the U.S. dollar strength.

Baht per U.S. dollar (USDTHB) and exchange rate indices



Note: REER for Sep 2022 is calculated using Aug 2022 inflation data
Source: BOT, Bloomberg, and Refinitiv (data as of 27 Sep 2022)

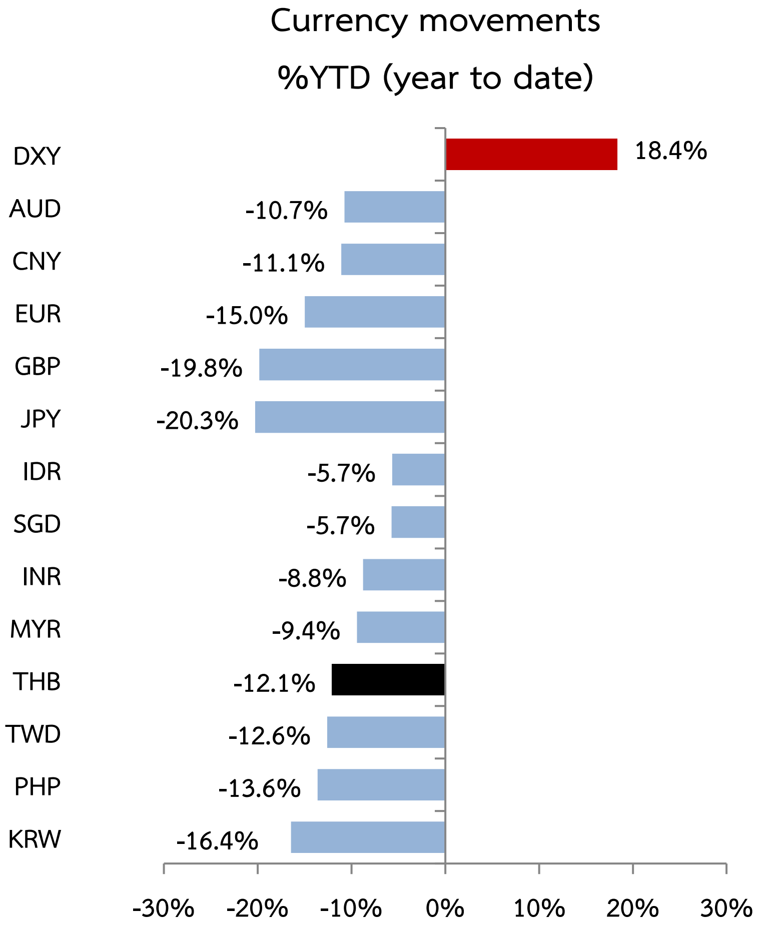
Capital flows into Thai securities (weekly)



Million USD	2022 (YTD) Jan – Sep	Q3/2022
Equity	4,499	1,202
Bond	-479	-473
Total	4,020	729

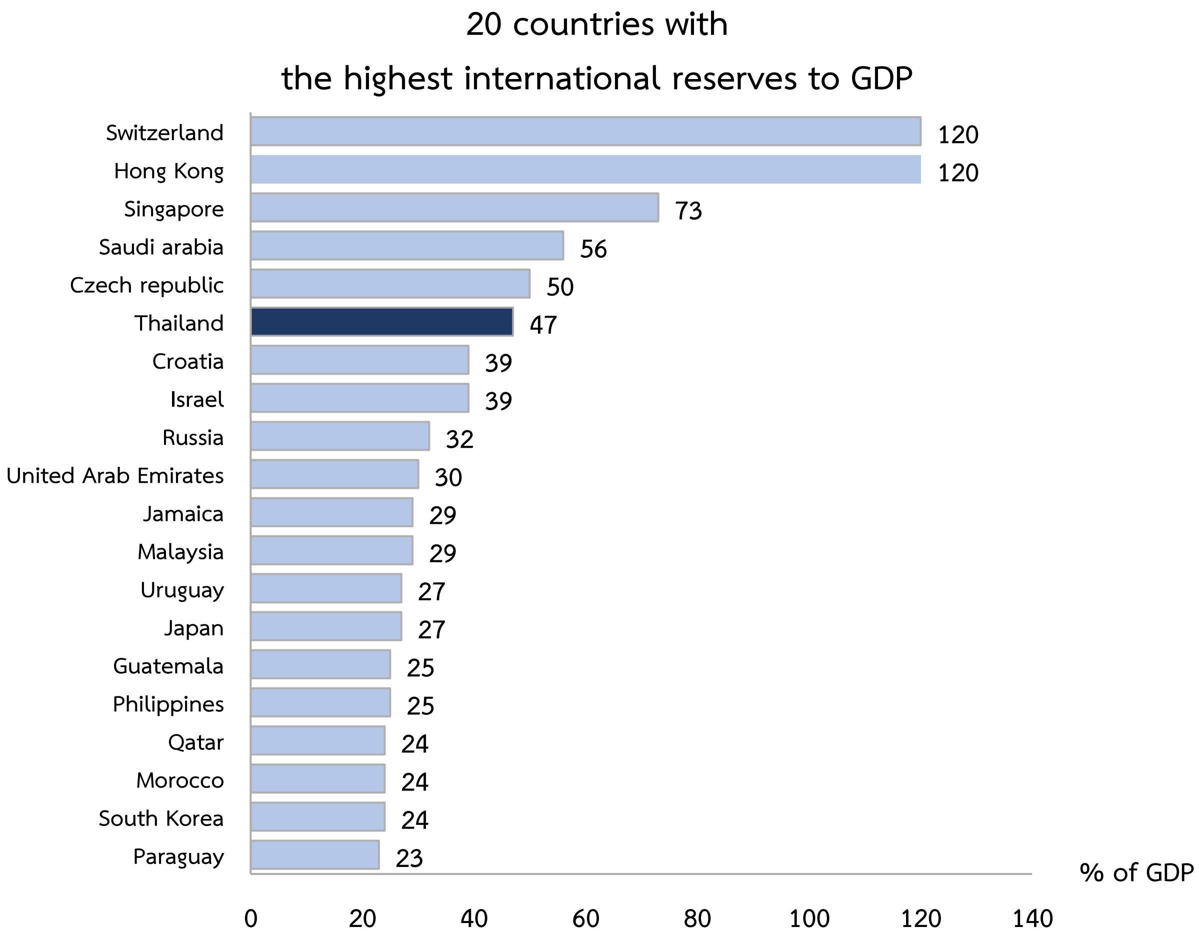
Note: Weekly data, data of debt flow is converted to USD using the exchange rate after 5 p.m.
Source: ThaiBMA and Bloomberg (data as of 27 Sep 2022)

The baht weakened in line with regional currencies with degree of depreciation ranked middle among regional countries. However, Thailand's external stability remains strong as reflected in a high level of international reserves (3 times the short-term external debt) and could cushion against capital flow volatility.



Note: DXY is the value index of U.S. dollar relative to a basket of major currencies, e.g. EUR (57.6%), JPY (13.6%), GBP (11.9%), etc.

Source: Refinitiv, Bloomberg (as of 27 Sep 2022)

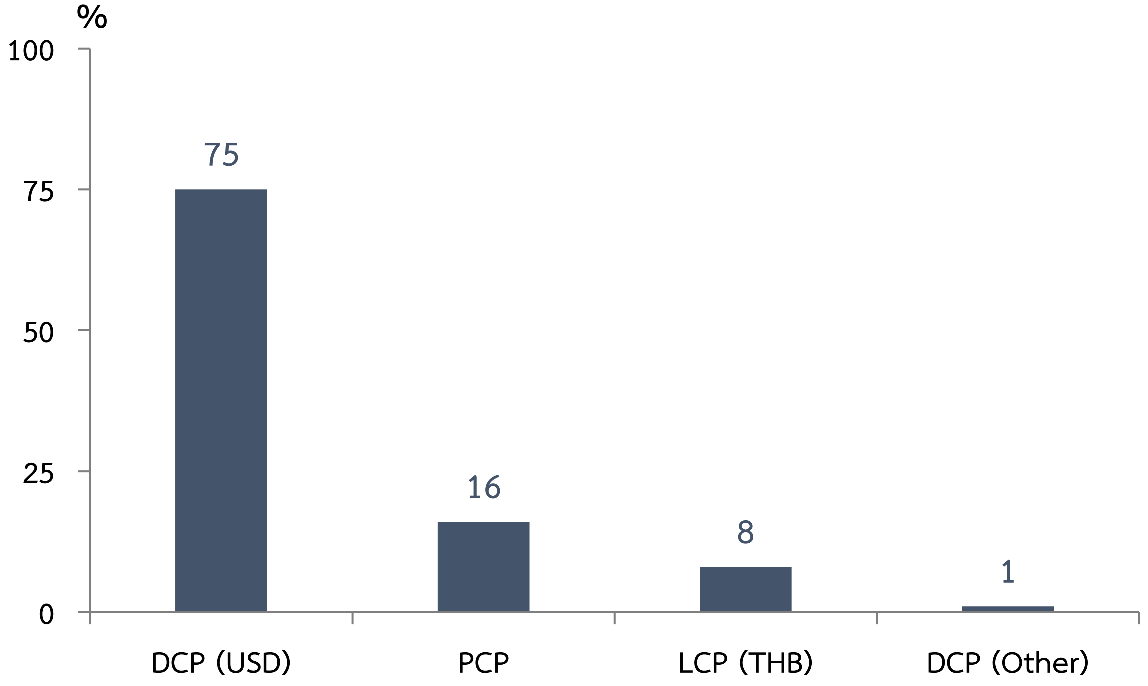


Note: Thailand's international reserves include net forward position (data as of Sep 2022)

Source: Bloomberg

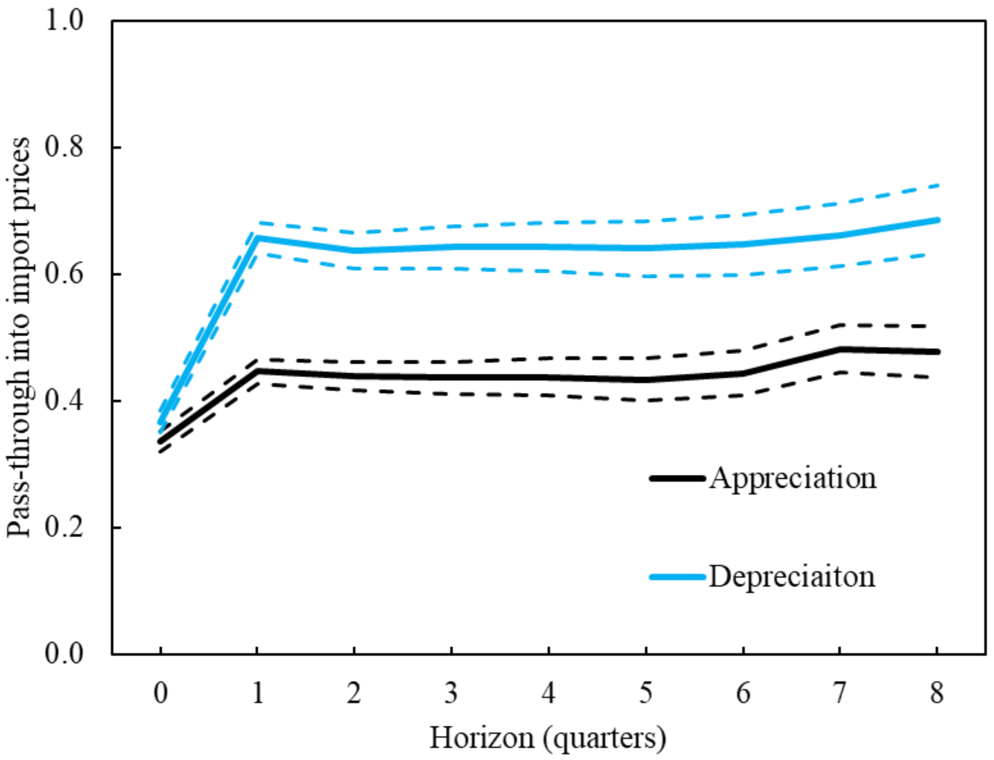
There is a need to monitor the baht depreciation which could create additional inflationary pressures. This is because most imports are priced in U.S. dollar and could thus lead to higher cost passthrough to prices of goods and services if the baht continues to weaken.

Share of imported goods by invoicing currency



Note: DCP (Dominant currency pricing) is the pricing of goods in the main currencies used in global trade
PCP (Producer currency pricing) is the pricing of goods in the exporter's local currency
LCP (Local currency pricing) is pricing of goods in Thai baht
Source: Thai Customs Department, BOT calculation

Exchange rate passthrough to prices of goods and services is generally higher when the baht weakens



Source: Apaitan et al., 2021 "Heterogeneity in Exchange Rate Pass-through to Import Prices in Thailand: Evidence from Micro Data"

4. Monetary Policy Decision

Monetary Policy Decision: Summary of Key Considerations

Economic growth

The Thai economy is expected to continue expanding driven mainly by tourism and domestic demand. The global economic slowdown would not derail the overall Thai economic recovery.

Inflation

Headline inflation is expected to return to the target range in 2023 owing to declining energy prices and easing supply chain disruptions.

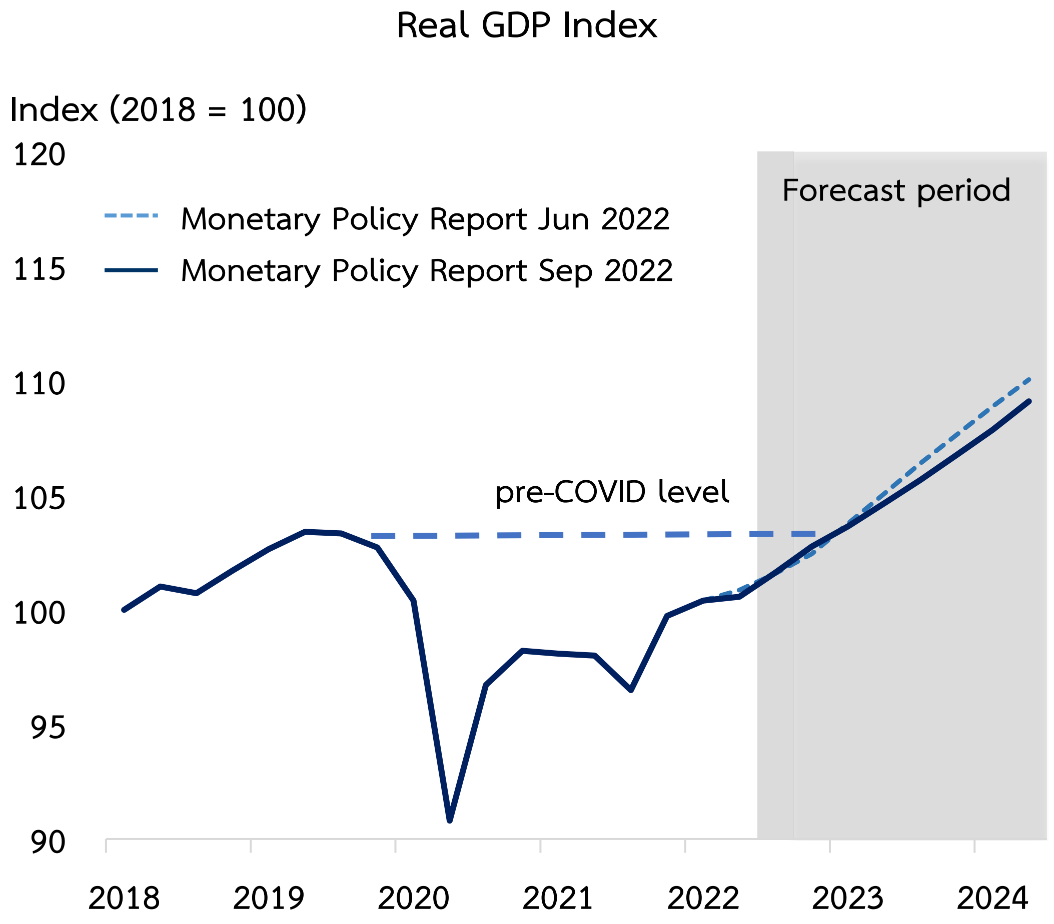
Financial Stability

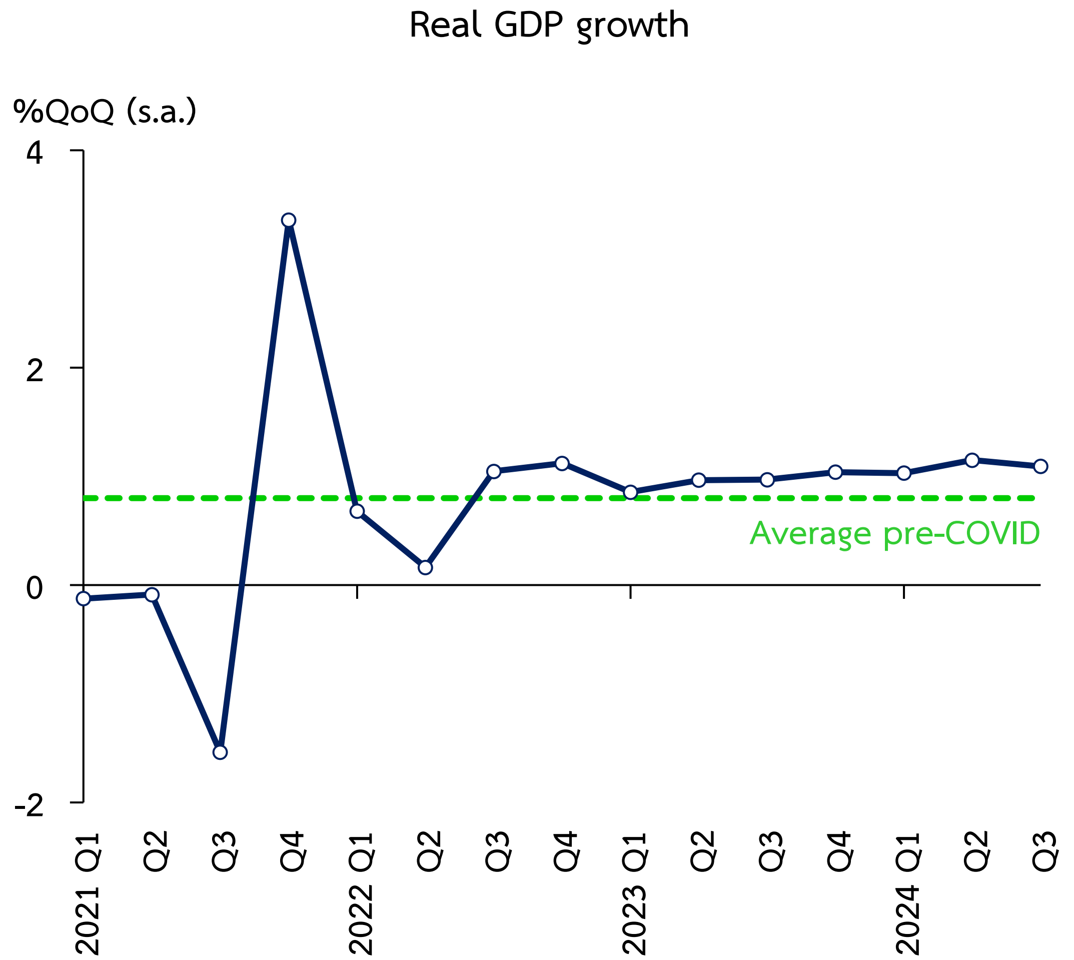
The financial system remains resilient overall. Debt serviceability of businesses and households has improved in line with the economic recovery although some borrowers remain vulnerable.

Monetary Policy Decision

The MPC will pursue a gradual and measured monetary policy normalization, and is ready to adjust the size and timing of policy normalization should the growth and inflation outlook shifts from the current assessment.

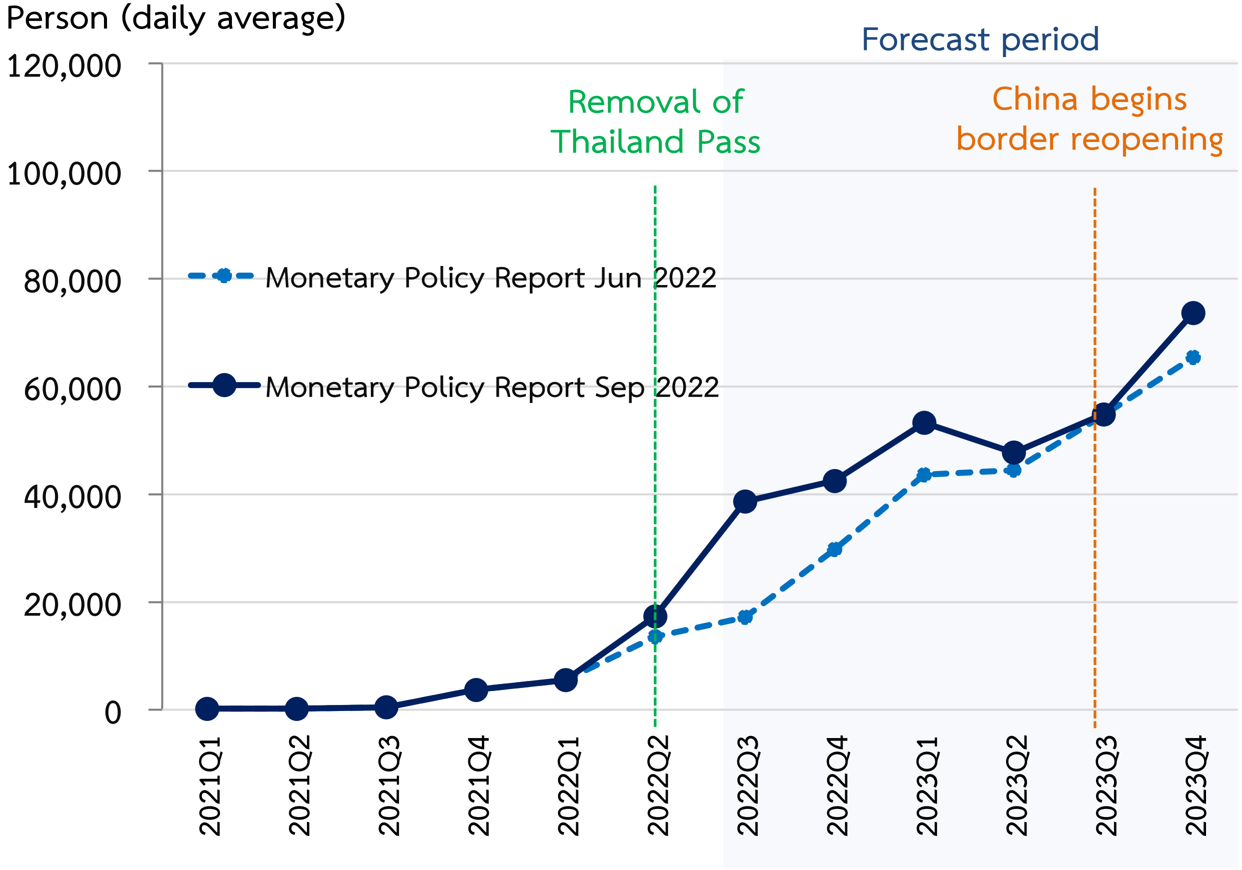
Economic growth: Thailand's GDP is expected to return to the pre-COVID level around the end of 2022 or the beginning of 2023, mainly driven by recovery in tourism and domestic demand. The economy will grow at its potential in Q1/2024.





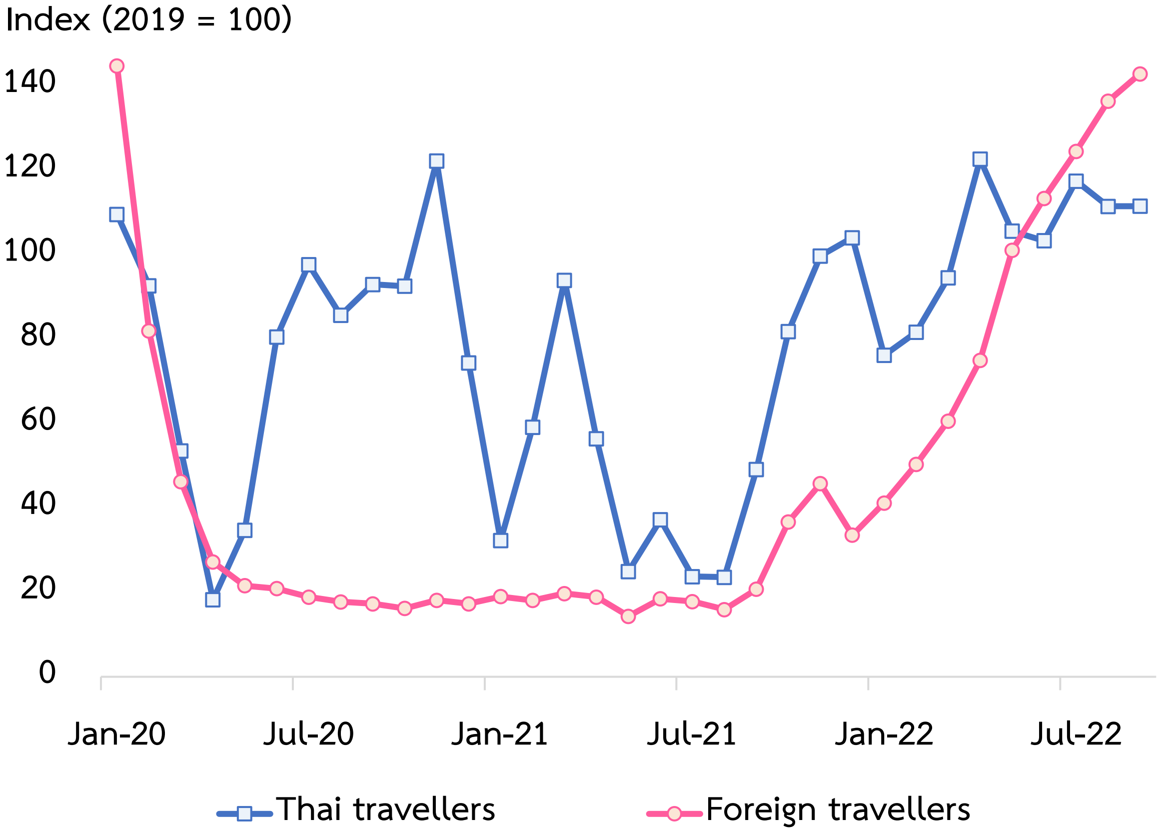
Tourism: The number of foreign tourist arrivals is expected to continue rising following the relaxation of international travel restrictions. This is consistent with recent tourism indicators which reflect a rising number of searches for flights to Thailand and accommodation in Thailand.

Number of foreign tourist arrivals* (daily average)



Source: Economics Tourism and Sports Division, Ministry of Tourism and Sports, BOT forecast

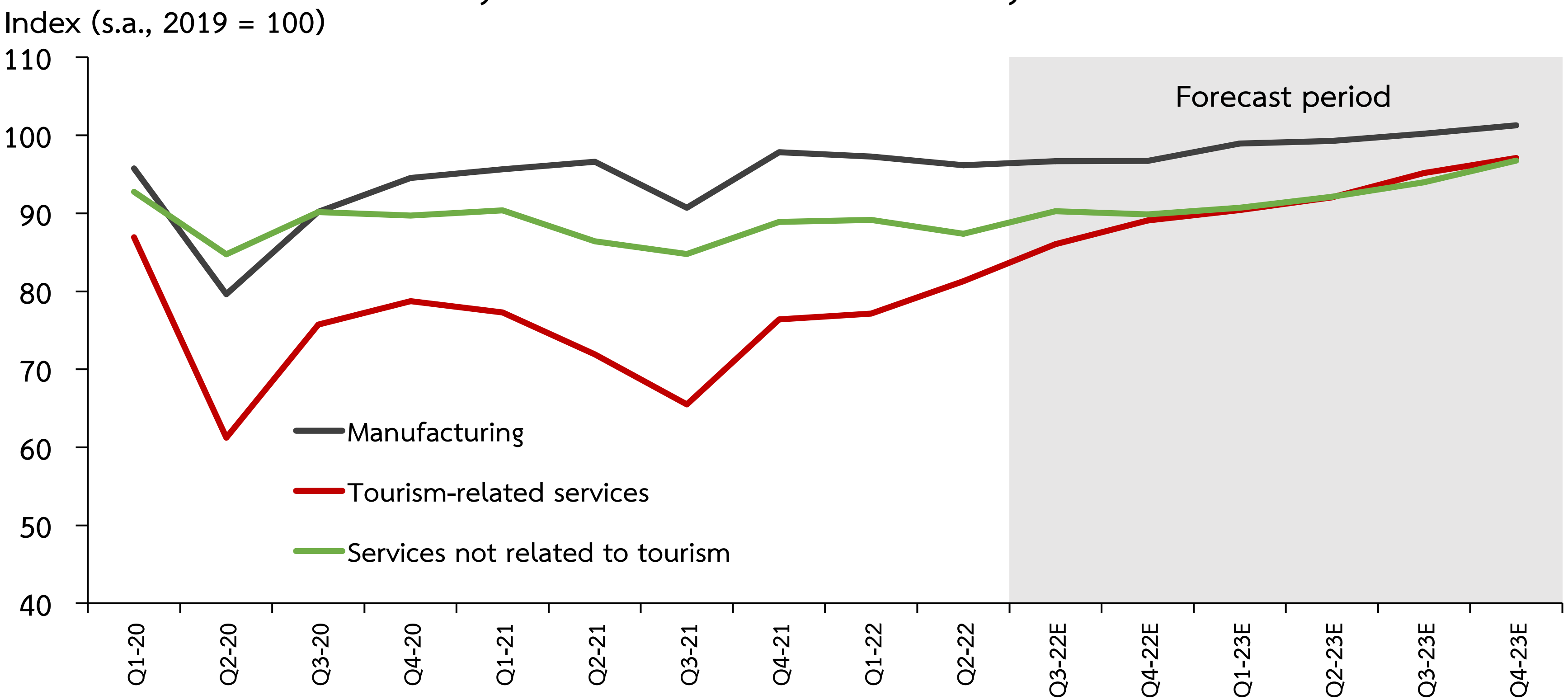
Search interest in flights to and accommodation in Thailand



Source: Google Travel Insights

Domestic demand: Recovery in economic activities would continue and become more broad-based across sectors, especially tourism-related services which has recovered rapidly in recent periods. This would benefit low- and medium-income households that are mostly working in the services sector or are self-employed, and support domestic demand recovery going forward.

Recovery outlook of economic activities by business sector



Note: E denotes expectations

Tourism-related services include hotel, restaurant, trade, and transportation

Services not related to tourism include construction, real estate, and logistics

Source: Office of Industrial Economics, Revenue Department, Department of Land, Ministry of Tourism and Sports, Businesss Liaison Program Interview, calculation and forecast by BOT

Headline inflation is expected to gradually decline to the target range of 1-3% in 2023. However, underlying inflation indicators and short-term inflation expectations remain high. Thus, there is a need to closely monitor inflation outlook and inflation expectations going forward.

Underlying inflation indicator	2022							
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Core CPI	0.5	1.8	2.0	2.0	2.3	2.5	3.0	3.2
Core CPI (ex rent & measures)	0.7	2.2	2.4	2.6	2.8	3.0	3.6	3.7
Symmetric trimmed mean CPI	1.2	2.1	2.4	2.4	3.2	3.7	4.0	4.2
Sticky CPI	0.5	2.4	2.8	2.7	3.2	3.5	4.2	4.7
Principal Component CPI	0.5	1.1	1.3	1.5	2.0	2.5	3.2	4.1

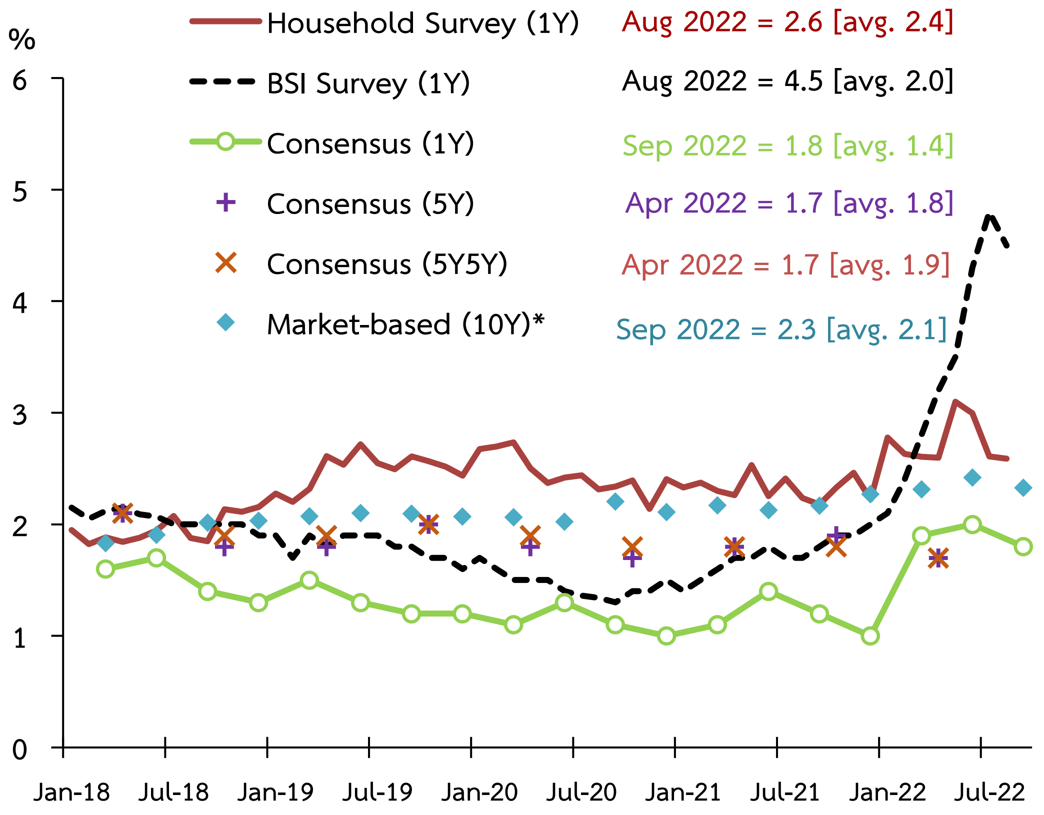
Less than 0.5% from median
Less than 0.25% - 0.5% from median
Close to median (+/- no more than 0.25%)
More than 0.25% - 0.5% from median
More than 0.5% from median

Median is 2% which is the mid-point of the 1-3% target range

Note: These monthly indicators are expressed as year-over-year changes. Symmetric trimmed mean CPI excludes goods and services whose prices have increased/decreased as much as 10%./ Sticky CPI is calculated from goods and services whose prices changed infrequently compared to the average of 4.8 times per month (Ref: Bryan and Meyer (2010))./ Principal component inflation is calculated from common underlying factors underpinning the change in prices of goods and services across 28 categories.

Source: Ministry of Commerce, calculated by BOT

Inflation expectations

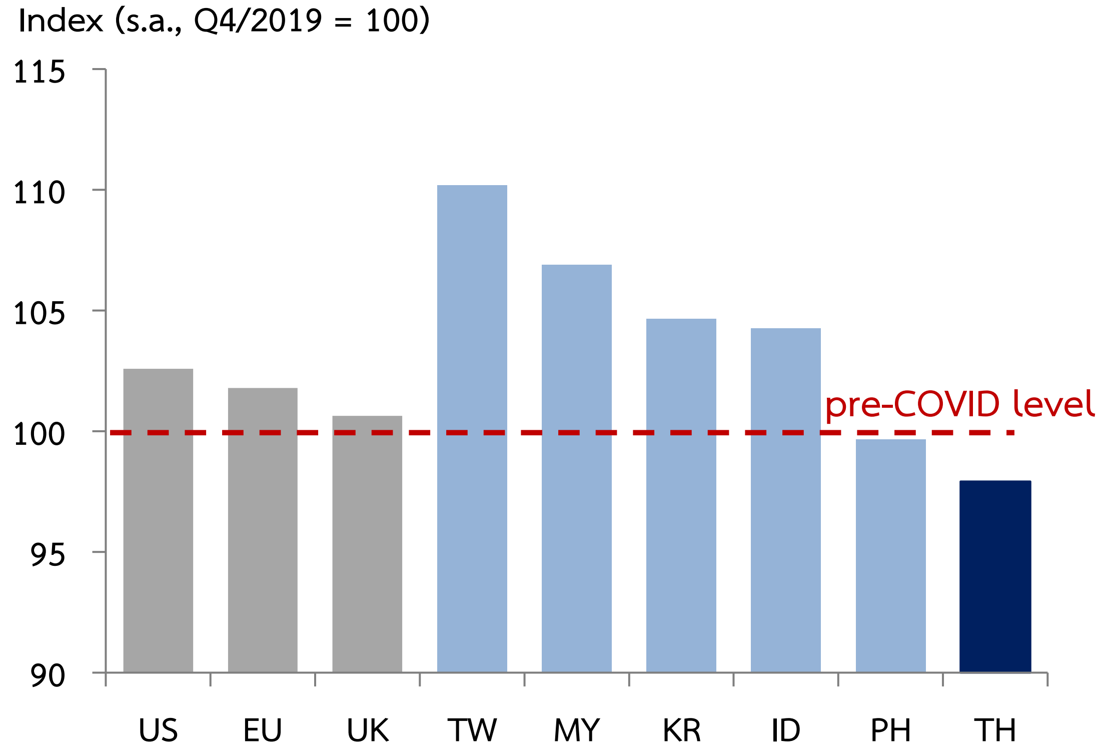


Note: [ ] is the average from Jan 2018; *forecasted using the affine term structure model which utilizes yield curve data and macroeconomic factors

Source: Consumer Confidence Index (Ministry of Commerce), Business Sentiment Survey (BOT), Asia Pacific Consensus Economics

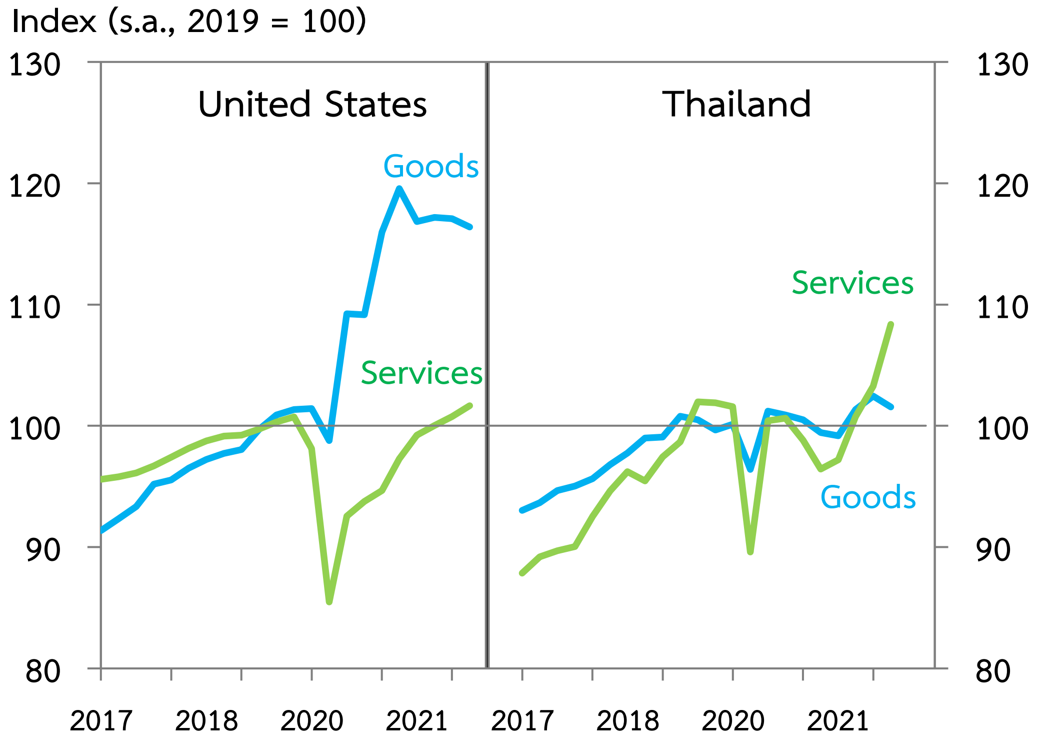
Demand-pull inflationary pressures in Thailand is limited in contrast with other countries given the early recovery phase and GDP that is still below pre-COVID level. Moreover, demand for goods remains low as opposed to many major trading partners such as the U.S.

GDP at the end of Q2/2022 by country



Source: CEIC, NESDC, calculated by BOT

Private consumption indices



Note: BOT's private consumption index for Thailand is calculated by deducting foreign tourists' spending from the BOT's assumption on private consumption

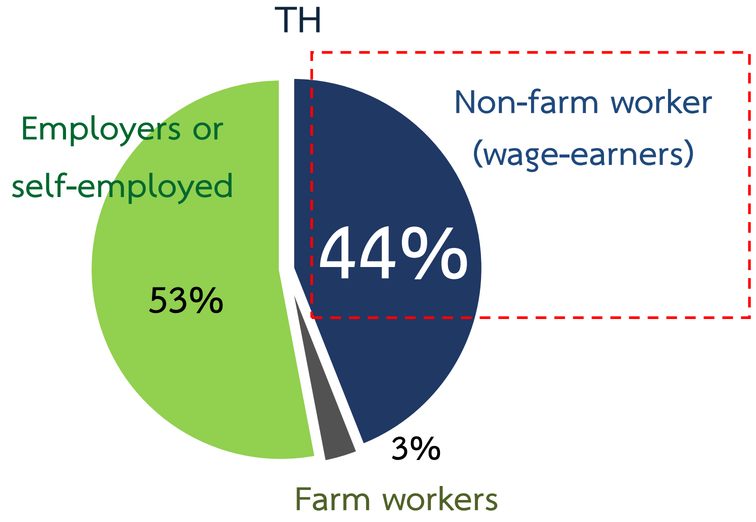
Source: U.S. Bureau of Economic Analysis, NESDC, calculated by BOT

The risk of wage-price spiral in Thailand is limited because Thailand's labor market fundamentals are different from advanced economies.

The likelihood of wage-price spiral in Thailand is limited and lower than in advanced economies because:

1. Share of non-farm workers (wage earners) in Thailand is 44% which is lower than in advanced economies with the share of around 90%.
2. Thailand's labor supply is relatively elastic. Immigrants, workers who had previously relocated, and the self-employed have started to return to economies areas.
3. Thai workers do not have as much bargaining power as workers in other countries.

Share of non-farm workers in Thailand is lower than other countries



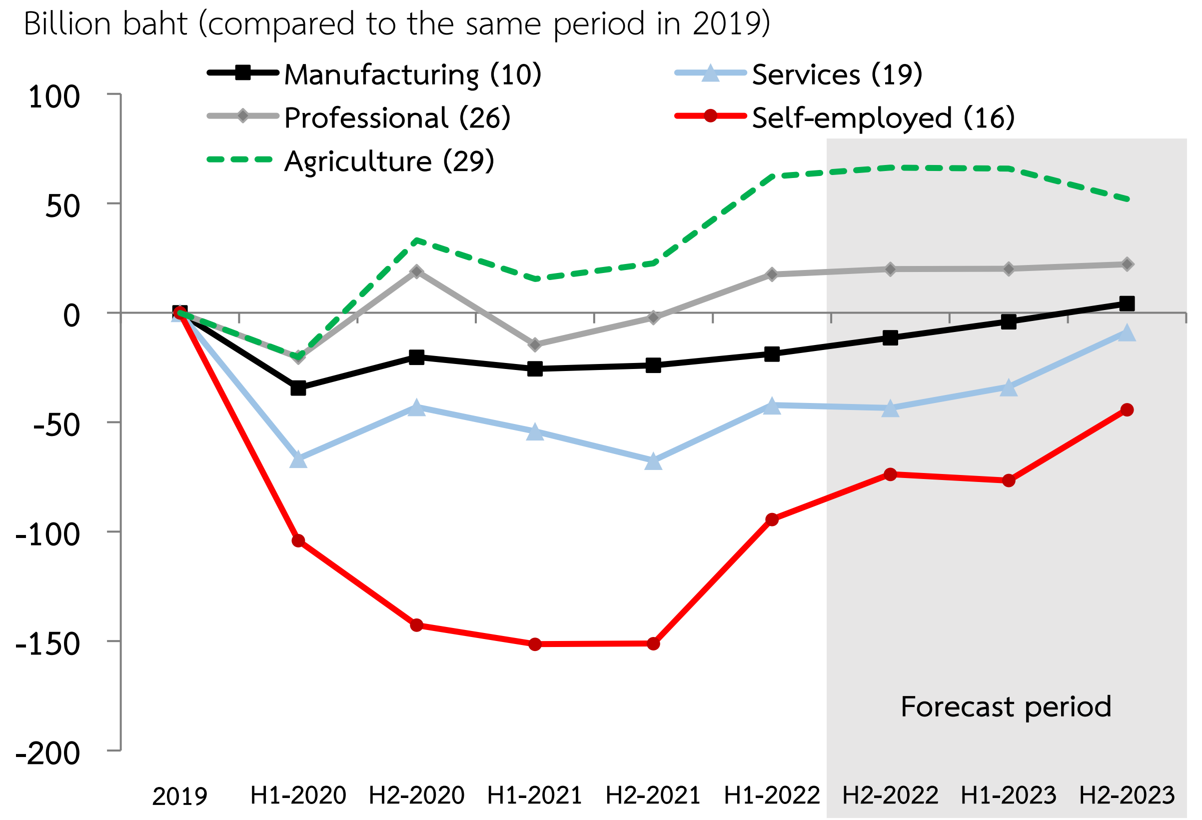
US 92%

DE 90%

UK 85%

Household balance sheets are improving on the back of a more broad-based recovery in labor income. Commercial banks' NPLs declined slightly owing to debt restructuring and credit quality management but NPLs of SMEs remain high.

Income recovery by sector (excluding government measures)

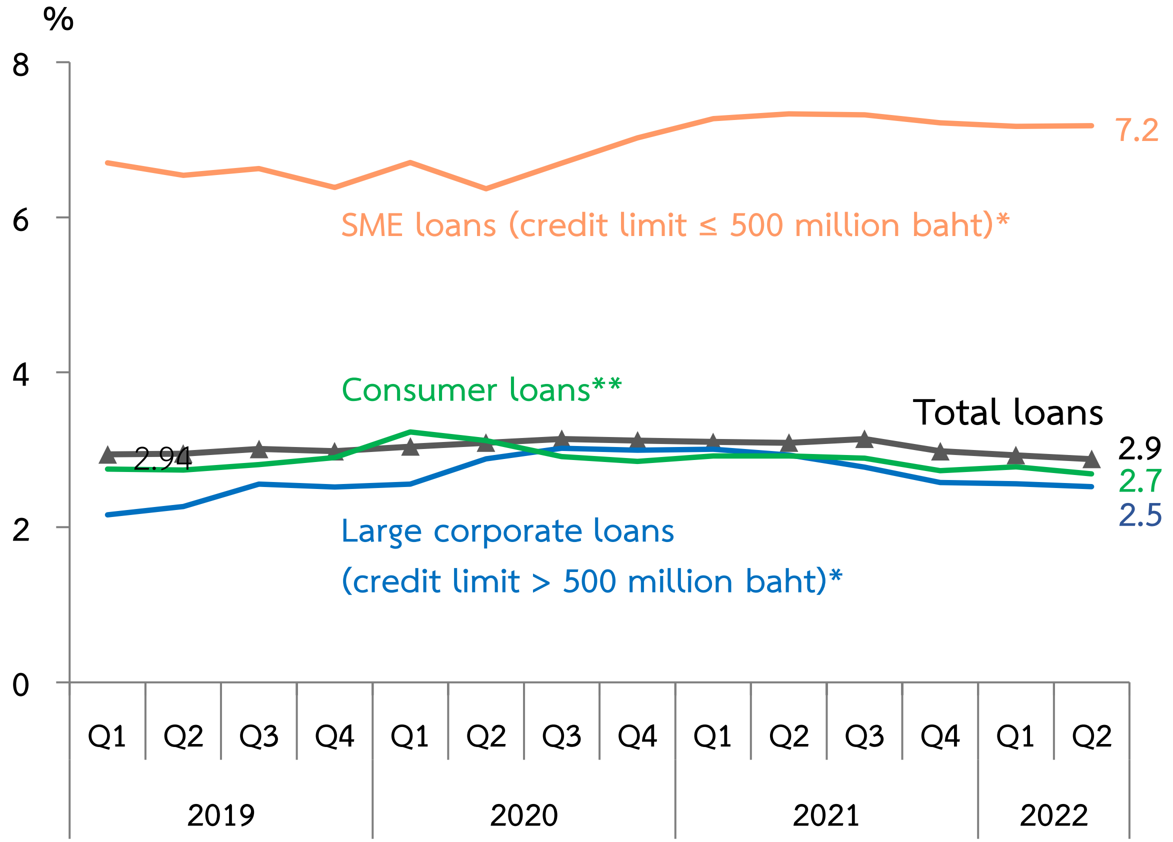


Notes: 1/ Total labor income (including agriculture) in 2021 was 5 trillion baht

2/ ( ) denotes each sector's income share to total labor income in 2021 (excluding government measures)

Source: National Statistics Office's Labor Force Survey, calculated by BOT

Commercial banks' share of stage 3 (non-performing loan: NPL)



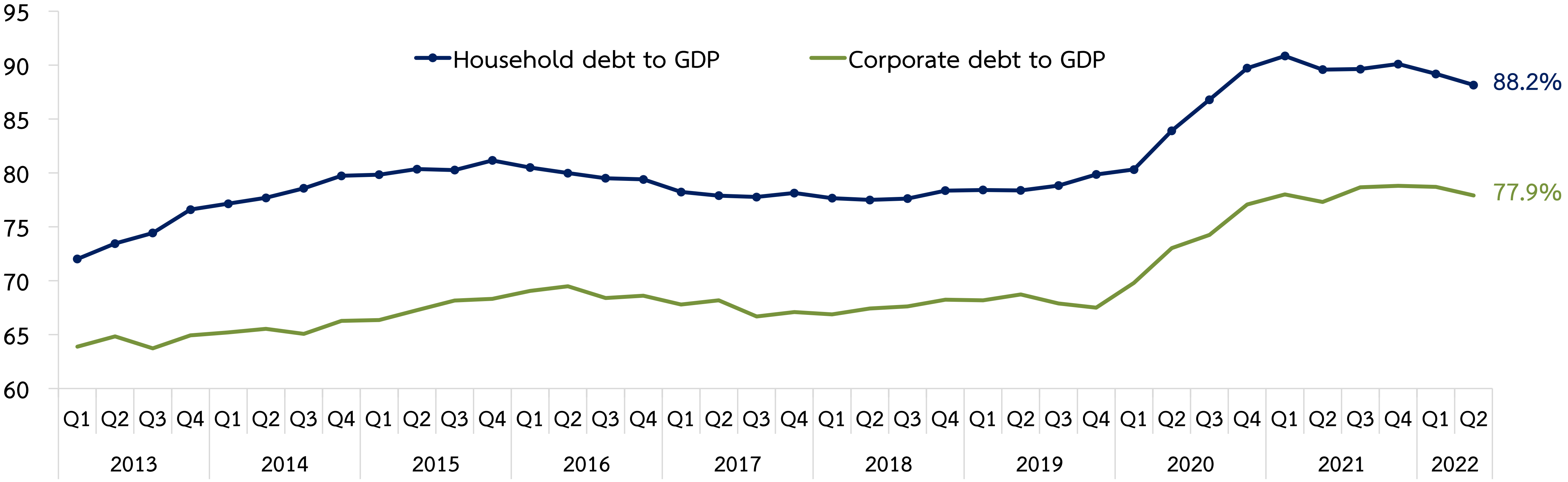
Notes: * Corporate loans exclude financial services businesses

** Consumer loans exclude loans extended by affiliated companies of commercial banks

Source: BOT

Household and corporate debts to GDP declined slightly in Q2/2022 but remain high. There remains a need to monitor debt serviceability of vulnerable borrowers who might be sensitive to higher living and input costs.

Household debt[1/] and corporate debt[2/] (% of GDP)



Note: [1/] Household debt refers to loans and investments of individual borrowers extended by financial institutions including commercial banks, specialized financial institutions (SFIs), saving cooperatives, other depository corporations, credit card, leasing and personal loan companies, insurance companies, securities companies, asset management companies, pawn shops, and other financial institutions.

[2/] Corporate debt includes corporate loans and bonds

[3/] Household and corporate debts to GDP are calculated by dividing debt amount by rolling 4-quarter sum of nominal GDP starting from the reference quarter backwards

Source: BOT, NESDC

The MPC recognizes that the policy normalization is being pursued while the recovery is not yet broad-based. Thus, targeted measures should be kept in place to support vulnerable groups.

	Q4/2022	Q1/2023	April 2023	Q4/2023
Regulatory relaxation	FIDF fee reduction (effective until end-2022)			
Liquidity injection	Special loan facility (effective until Apr 2023) Transformation loan (effective until Apr 2023)			
Debt relief	Asset Warehousing scheme (effective until Apr 2023)			
Debt relief	<u>Existing measures (still effective)</u> • Long-term debt relief measures lauched on 3 Sep 2021 (effective until end-2023) • Additional channels such as "Debt Doctor", "Debt Exit Fastlane", and "Debt Mediation" schemes <u>Additional measures for vulnerable retail borrowers</u> • For loans with normal status: Reducing the minimum debt repayment rate for credit card loans and extending the repayment period for digital personal loans (effective until end-2023) • For loans that are non-performing: Adjusting repayment conditions under the Debt Clinic Scheme and arranging a debt mediation event (Sep 2022 – Jan 2023) (credit card / personal loan / hire purchase / registration loan / nano-finance/ asset management company)			

The MPC has gradually raised the policy rate to 1.00% and deems that a gradual policy normalization remains appropriate. The MPC is ready to adjust the size and timing of policy normalization should the growth and inflation outlook shifts from the current assessment.

MPC Meeting No. 4/2022 (10 Aug 2022)	MPC voted 6 to 1 to raise the policy rate by 0.25 percentage point. One member voted to raise the policy rate by 0.50 percentage point.	The economy will continue to recover but with increased inflation risks. Extraordinarily accommodative monetary policy has become less needed. Most members thus voted to gradually raise the policy rate. One member voted to raise the policy rate by 0.50 percentage point to reduce the risk of having to raise the policy rate aggressively later and views that such a rate hike would not significantly impact the economic recovery.
MPC Meeting No. 5/2022 (28 Sep 2022)	MPC voted unanimously to raise the policy rate by 0.25 percentage point	The overall growth and inflation outlook is consistent with the previous assessment. The economic recovery has continued to gain traction driven by tourism and private consumption. Headline inflation remains high due to higher cost passthrough. The MPC viewed that a gradual policy normalization remains appropriate.

Current policy rate:

1.00%

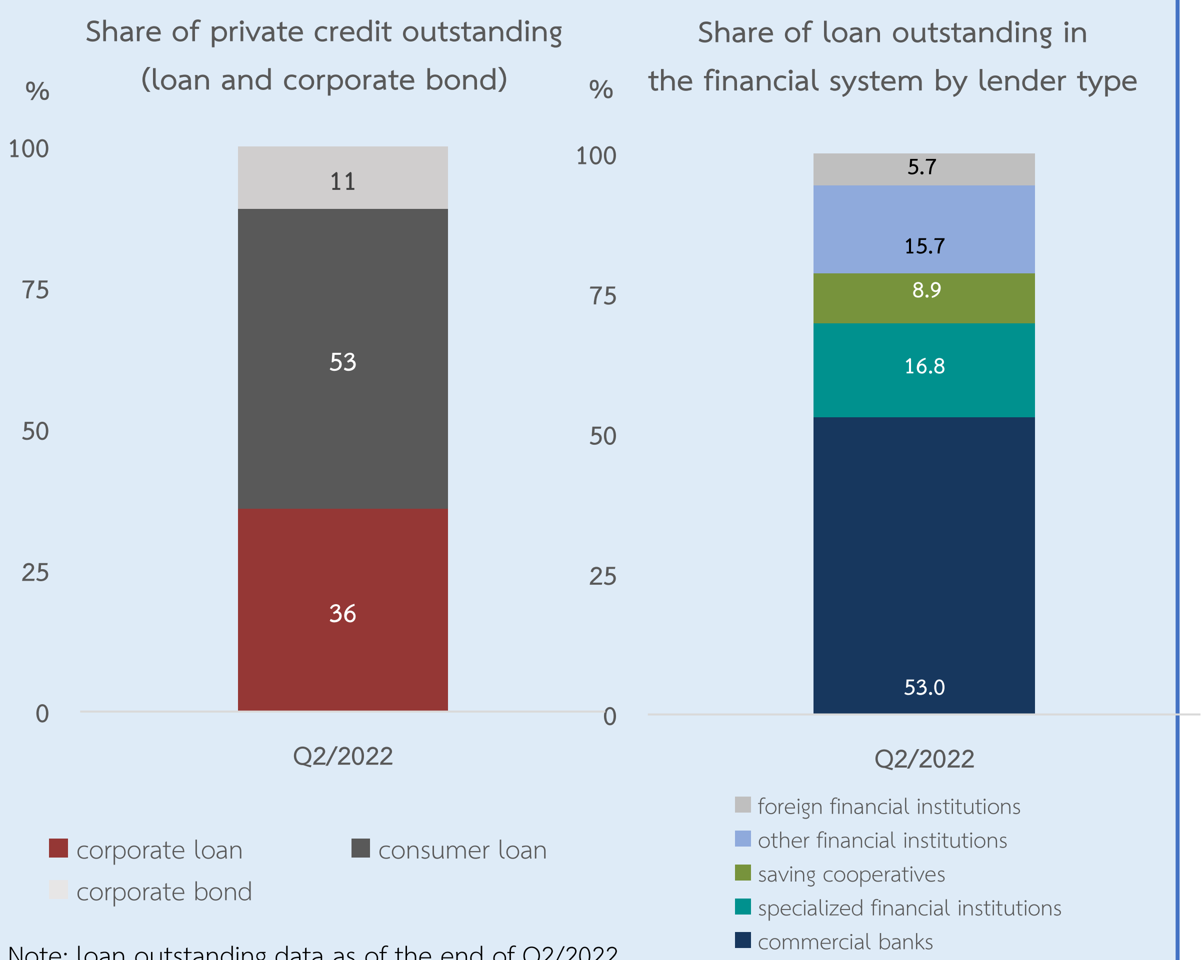
The MPC viewed that the policy rate should be normalized in a gradual and measured manner to the level that is consistent with sustainable growth in the long term. Should the growth and inflation outlook shifts from the current assessment, the MPC stands ready to adjust the size and timing of policy normalization as appropriate.

Box 2: Monetary policy transmission and its impact on households and businesses

The policy rate in Thailand has been gradually raised to 1.00% on 28 September 2022 after being held at 0.50% since 20 May 2020. The Monetary Policy Committee (MPC) views that extraordinarily accommodative monetary policy has become less needed given the changing balance of risks. The economy has continued to recover while inflation rose on the back of energy prices and remains elevated for many months. Such increased inflation risks could weigh on the economic recovery going forward. In this regard, monetary policy normalization must therefore begin in order to achieve the objectives of supporting economic growth, preserving price stability, and safeguarding financial stability. Nonetheless, the MPC views that policy rate should be raised in a gradual and measured manner to ensure that financing costs do not increase too rapidly and allow stakeholders to make needed adjustments.

The impact of monetary policy normalization on financing costs faced by households and businesses in Thailand will mainly depend on policy transmission through interest rate channel as financial institutions' lending accounts 89% of total private credit (Chart 1, LHS). In general, when the MPC raises the policy rate, interest rates in the money market will increase and financial institutions will adjust their asset-liability management to maintain profitability by raising both lending and deposit rates to the appropriate levels.

Chart 1: Share of Thailand's private credit outstanding



Note: loan outstanding data as of the end of Q2/2022

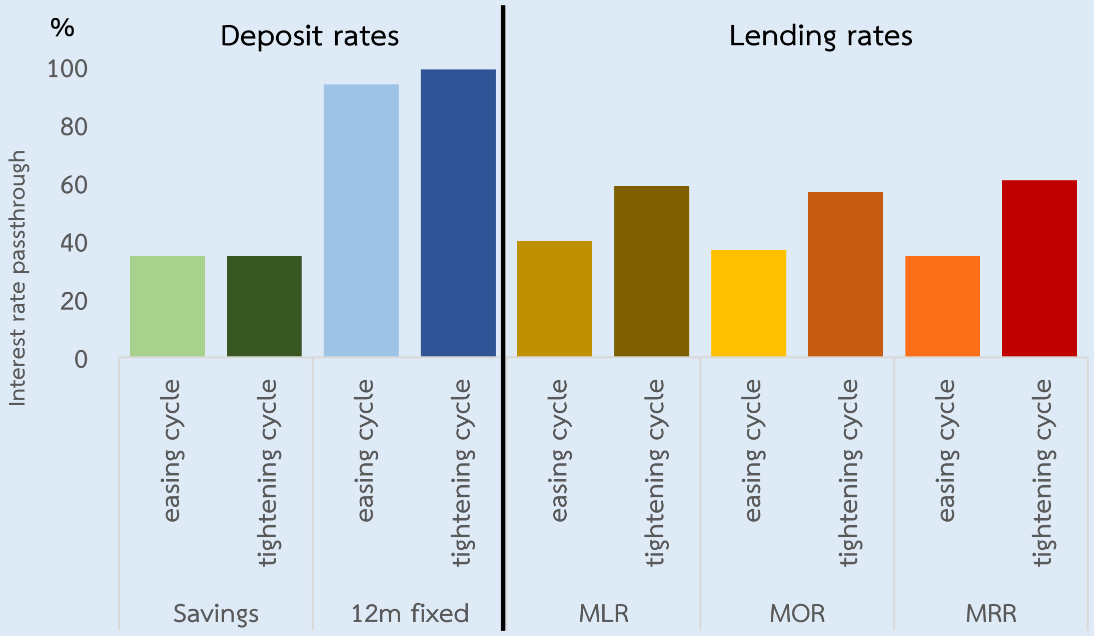
Source: BOT

Box 2: Monetary policy transmission and its impact on households and businesses

Main creditors in the Thai financial system are commercial banks and specialized financial institutions (SFIs), which account for 53% and 17% of total loan outstanding in the financial system, respectively **(Chart 1, RHS).** New lending is generally extended by commercial banks and SFIs[1/]. Therefore, increases in lending rates by commercial banks and SFIs would result in higher financing costs for new borrowers as well as higher interest burden for existing borrowers with floating-rate loans.

A study on how commercial banks adjust their interest rates in the recent periods found that the degree of monetary policy transmission differs across interest rate types and the timing of rate adjustment also varies across banks. Overall, **banks transmit about 40-60% of the policy rate change to all lending rates**[2/]. During a tightening cycle, banks would transmit changes in the policy rate to lending rates more than they would during an easing cycle. The study also found that the interest rate type that sees the biggest passthrough is the fixed-deposit rate, followed by several lending rates (MLR, MRR, and MOR), with the smallest passthrough to saving rate **(Chart 2)**. Each bank's size of adjustment for deposit and lending rates of different products also varies, depending on shares of deposit and loan outstandings of each product type as well as asset-liability management strategy of each bank.

Chart 2: Passthrough of policy rate to banks' deposit and lending rates



Note: Interest rate passthrough is the sum of coefficients $(\beta_1 + \beta_2 + \beta_3)$ from the following baseline regression: $\Delta BI = \beta_0 + \beta_1 \Delta RP_t + \beta_2 \Delta RP_{t-1} + \beta_3 \Delta RP_{t-2} + \varepsilon$ with dummy variable added to the extension model to explore different degrees of passthrough during tightening and easing cycles

BI denotes average deposit or lending rates of all commercial banks

RP denotes policy rate

Monthly data during 2001 – 2021

Source: calculation by BOT

[1/] Average growth of credit extended by commercial banks and SFIs is 3.7% and 3.5%, respectively (compound average annual growth rate between 2016 – 2021)

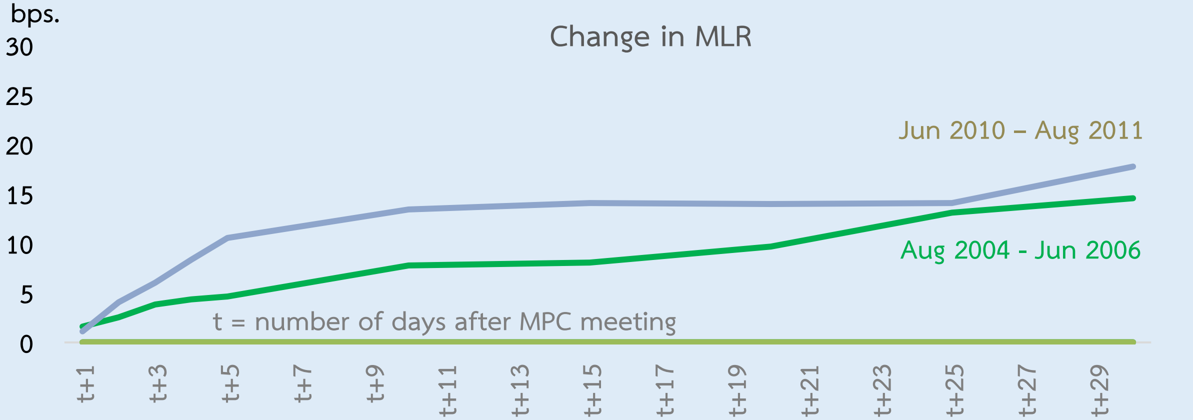
[2/] Assessment of the policy transmission 1 quarter after the policy rate is adjusted.

Box 2: Monetary policy transmission and its impact on households and businesses

Timing of rate adjustment varies across banks. During past tightening cycles in Thailand (Aug 2004 – Jun 2006 and Jun 2010 – Aug 2011), it takes about 30 days on average after the policy rate hike for all banks to adjust their MLRs. The sizes of rate adjustment also differ during both cycles **(Chart 3).**

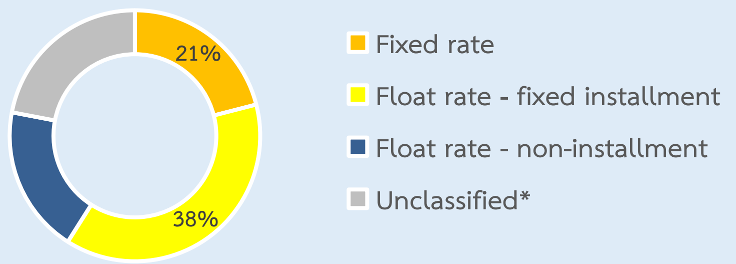
Nonetheless, the first few policy rate hikes would have a limited impact on households and businesses. The magnitude of impact will depend on whether the loan is fixed or floating rate. For **consumer loans**, an immediate increase in interest burden will be limited to non-installment loans such as retail loans for business purpose and margin loans (19% of consumer loan outstanding). Meanwhile, **consumer loans that would not see an increase in interest burden yet are fixed-rate and floating-rate loans with fixed installments, which together make up about 60% of consumer loan outstanding (Chart 4).** Fixed-rate loans will be unaffected. For floating-rate loans with fixed installments, banks usually calculate and set the installments that cover potential increases in interest rates to a certain extent. Therefore, the installment amounts would not increase unless the increase in interest rates is larger than what banks have expected.

Chart 3: Transmission of policy rate hike to minimum loan rate (MLR)



Note: Calculated from an average change in all commercial banks' MLRs within 30 days after the MPC raised policy rate by 0.25%
Source: calculation by BOT

Chart 4: Share of household debt by interest rate type in Q1/2022

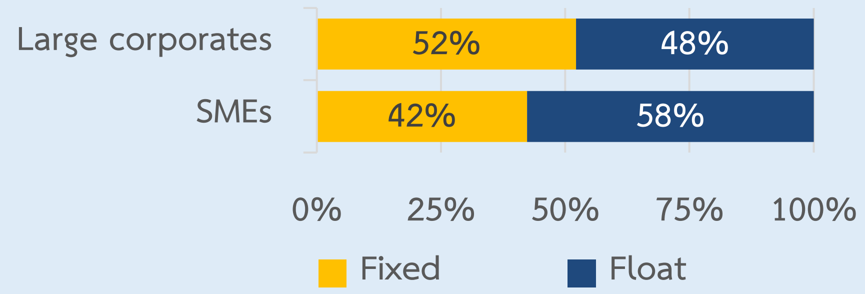


Notes: Interest rate type is categorized mainly by characteristics of loan portfolio. (1) Fixed-rate loans include auto leasing, car-for-cash, credit card loan, personal loan under BOT supervision, and nano finance. (2) Floating rate loans with fixed installment include mortgage, home-for-cash, and education loans. (3) Floating rate loans with no installment include retail loan for business purpose (exclu. nano finance) and margin loan. (4) Unclassified loans include other personal loan (exclu. personal loan under BOT supervision, home-for-cash, and car-for-cash) and other loans.

Box 2: Monetary policy transmission and its impact on households and businesses

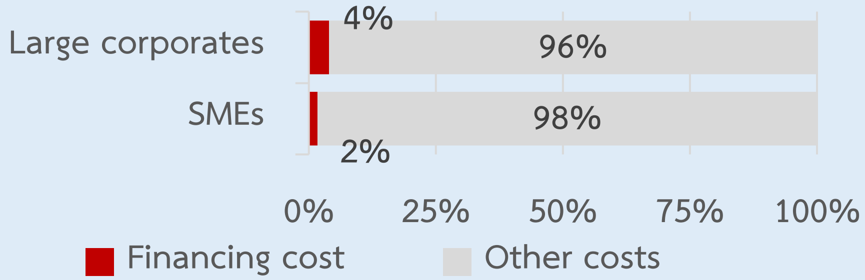
For corporate loans, businesses with floating-rate loans would be affected immediately. The floating-rate loans make up 58% of total SME loan outstanding and 48% of large corporate loan outstanding **(Chart 5)**. However, **financing cost is a marginal portion, only 2-4%, of total costs faced by businesses (Chart 6) and so the increase in financing costs would not have a significant impact on businesses.** The Thai Bankers' Association (TBA) held a press conference on 10 August 2022 and stated that Thai banks recognize the impact of interest rate increase on borrowers especially vulnerable groups who have been affected by the COVID-19 and the increased living costs in recent periods. The banks would thus gradually raise interest rates, starting from interest rates that are applied to large borrowers who possess higher degree of flexibility to absorb the shock. Assistance measures will also be kept in place for vulnerable borrowers to support the economic recovery and prevent NPLs from rising to a point that can pose risks to financial stability.

Chart 5: Share of corporate loans by interest rate type



Source: BOT, SEC, SET, Department of Business Development

Chart 6: Share of financing cost in total costs faced by businesses



Source: BOT, SEC, SET, Department of Business Development

Box 2: Monetary policy transmission and its impact on households and businesses

The Bank of Thailand (BOT) emphasizes the importance of targeted financial measures which should be in place to help mitigate the impact on vulnerable groups in a targeted manner, especially SMEs and households whose incomes have yet to fully recover. Such measures include both existing and new ones. Existing financial measures can be grouped into 3 categories: **(1) measures that address exising debt** include the long-term debt relief measures with an objective to actively pursue debt restructuring so that borrowers' repayment plan is in line with their income flows, as well as measures to support debt refinancing and debt consolidation, **(2) liquidity support measures** include the special loan facility, and **(3) additional measures** include "Debt Exit Fastlane" and "Debt Doctor" schemes to provide support for the wider population. The BOT also announced additional measures targeted at vulnerable retail borrowers. Measures for **borrowers with normal-status loans** are, for example, reducing the minimum credit card repayment rate to 5% until 2023, and extending the repayment period for digital personal loans to 12 months until 2023. Measures for **borrowers with non-performing loans** include adjusting repayment conditions under "Debt Clinic" scheme and organizing a "Debt Mediation" event between September 2022 – January 2023. In addition, the BOT has **introduced a transformation loan facility under the Soft Loan Emergency Decree** to help enhance cheap-funding access for SMEs who have survived the COVID-19 pandemic to improve, develop, and strengthen their business capabilities through the adoption of digital technology, green business practices, or investment in innovation. The facility offers a credit line of 150 million baht to each borrower with the average interest rate over the first 5 years of no more than 5%. The transformation loan facility will be available until April 2023 as with the existing special loan facility **(Chart 7)**.

Box 2: Monetary policy transmission and its impact on households and businesses

Chart 7: Financial measures implemented by the Bank of Thailand

Existing measures – flexible, targeted, and can be readily adjusted if the situation warrants

Measures that address existing debt	Liquidity support measures	Additional channels
- Long-term debt relief measures (effective until 2023) - Measures to support debt refinancing and debt consolidation (effective until 2023) - Asset warehousing scheme (until Apr 2023)	- Special loan facility (until Apr 2023)	- Debt Exit Fastlane - Debt Clinic - Debt Doctor

Additional measures targeted at vulnerable retail borrowers – especially retail borrowers who rely on unsecured loans

For borrowers with normal-status loans	For borrowers with non-performing loans
- Reduce minimum credit card repayment rate to 5% (until 2023) - Extend repayment period for digital personal loans to 12 months (until 2023)	- Adjustment of debt repayment conditions under the Debt Clinic scheme (3 options) - Debt Mediation event (Sep 2022 – Jan 2023)

Transformation loan facility under the Soft Loan Emergency Decree – to help enhance cheap-funding access for SMEs who have survived the COVID-19 pandemic to improve, develop, and strengthen their business capabilities (average interest rate over the first 5 years ≤ 5%, average interest rate over the first 2 years ≤ 2%, and interests will be subsidized by the government during the first 6 months)

Digital technology	Green	Innovation
- Adopt digital technology to improve efficiency - Invest in automation	- Invest in energy-saving systems, alternative energy, and renewable energy - Invest in the development of environmental-friendly products, services, and manufacturing processes - Accommodate growth of electric vehicles (EV)	- Invest in technology and innovation that enhance competitiveness - Develop products and services to meet modern living needs - Invest in equipment and tools that help business transitions to high-value services

Data tables

Percent	2020	2021	2020			2021				2022	
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
GDP growth	-6.2	1.5	-12.3	-6.4	-4.2	-2.4	7.7	-0.2	1.8	2.3	2.5
Production											
Agriculture	-3.5	1.0	-3.5	-1.6	-0.2	1.0	2.1	2.2	-0.6	4.7	4.4
Non-agriculture	-6.4	1.6	-13.0	-6.7	-4.7	-2.6	8.3	-0.3	2.0	2.1	2.3
Manufacturing	-5.6	4.9	-14.5	-5.0	-0.4	1.1	17.0	-0.9	3.8	2.0	-0.5
Construction	1.3	2.7	6.8	9.4	-0.9	13.5	3.1	-4.2	-0.8	-5.5	-4.5
Wholesales and retail trade	-3.2	1.7	-10.1	-5.7	-3.1	-2.4	5.0	2.7	3.0	2.8	3.1
Transport and storage	-22.9	-2.9	-38.8	-23.9	-21.0	-16.9	10.3	-1.4	3.2	4.2	5.3
Accommodation and Food Service	-37.5	-14.4	-53.3	-39.8	-34.0	-36.8	16.4	-19.0	-4.9	33.5	44.9
Information and Communication	1.1	5.6	0.4	0.6	1.8	4.5	5.6	6.8	5.3	5.7	6.2
Financial intermediation	5.1	5.7	3.8	3.7	6.3	6.4	5.9	6.1	4.4	1.3	1.6
Real estate and renting	1.5	1.8	1.1	1.7	1.4	2.2	2.7	0.7	1.5	1.0	2.4

Source: Office of the National Economic and Social Development Board, National Statistical Office and Bank of Thailand

Percent	2020	2021	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2
GDP growth	-6.2	1.5	-12.3	-6.4	-4.2	-2.4	7.7	-0.2	1.8	2.3	2.5
Expenditure											
Domestic demand	-1.5	1.6	-5.5	-0.2	0.2	2.1	4.6	-1.6	1.7	3.4	4.1
Private consumption	-1.0	0.3	-6.6	-0.6	0.8	-0.3	4.7	-3.2	0.4	3.5	6.9
Private investment	-8.2	3.3	-14.4	-10.4	-3.2	3.1	9.2	2.6	-0.8	2.9	2.3
Government consumption	1.4	3.2	1.5	3.7	2.4	2.2	1.0	1.5	8.1	7.2	2.4
Public investment	5.1	3.8	12.0	17.0	0.0	19.8	3.4	-6.2	1.7	-4.7	-9.0
Imports of goods and services	-14.1	17.9	-23.6	-20.8	-8.4	1.0	28.7	29.5	16.4	6.2	9.1
imports of goods	-10.6	18.3	-19.7	-17.4	-3.8	4.6	29.9	28.0	14.0	4.2	7.1
imports of services	-27.8	16.0	-38.2	-34.6	-26.4	-13.4	23.6	37.1	28.1	13.7	16.8
Exports of goods and services	-19.7	10.4	-28.0	-23.5	-21.7	-10.3	28.4	12.3	17.6	12.1	8.5
exports of goods	-5.8	14.9	-16.0	-7.4	-1.4	2.9	30.8	12.0	16.6	10.2	4.6
exports of services	-61.3	-23.1	-69.4	-74.4	-76.2	-62.3	4.8	14.7	28.8	32.5	54.3
Trade balance (billion, U.S. dollars)	40.9	39.9	8.8	14.1	8.7	9.0	11.2	9.4	10.2	9.3	5.2
Current account (billion, U.S. dollars)*	21.1	-10.3	1.7	7.9	0.6	-1.7	-2.6	-4.4	-1.6	-2.6	-8.1
Financial account (billion, U.S. dollars)*	-11.7	-6.0	6.6	-6.3	-2.3	-6.7	-2.7	2.6	0.8	3.7	0.9
International reserves (billion, U.S. dollars)	258.1	246.0	241.6	251.1	258.1	245.5	246.5	244.7	246.0	242.4	222.3
Unemployment rate (%)	1.7	1.9	2.0	1.9	1.9	2.0	1.9	2.3	1.7	1.5	1.4
Unemployment rate, seasonally-adjusted (%)	n.a.	n.a.	2.0	1.9	2.0	2.0	1.9	2.2	1.7	1.5	1.4

Note: *Data may be subject to change in line with periodic revisions or changes to data collection methodologies

Source: Office of the National Economic and Social Development Board, National Statistical Office and Bank of Thailand

Indicators	2020	2021	2020			2021				2022	
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
1. Financial market sector											
Bond market											
Bond spread (10 years - 2 years)	0.9	n.a.	0.8	0.8	0.9	1.5	1.3	1.3	1.2	1.4	1.5
Equity market											
SET index (end of period)	1,449.4	1,657.6	1,339.0	1,237.0	1,449.4	1,587.2	1,587.8	1,605.7	1,657.6	1,648.8	1568.3
Actual volatility of SET index[1/]	30.4	12.0	25.2	13.7	23.0	13.6	12.4	11.8	10.4	12.0	12.6
Price to Earnings ratio (P/E ratio) (times)	28.8	20.8	18.9	21.2	28.8	41.4	30.2	20.5	20.8	19.6	18.5
Exchange rate market											
Actual volatility of Thai baht (%annualized)[2/]	5.4	5.4	5.5	5.3	5.2	4.4	4.4	5.5	7.3	6.6	6.4
Nominal Effective Exchange Rate (NEER)	122.6	117.8	122.5	122.0	122.5	122.7	119.3	114.8	114.6	116.8	116.4
Real Effective Exchange Rate (REER)	110.2	104.7	108.9	110.0	110.4	109.0	106.0	101.7	102.3	104.4	103.8
2. Financial institution sector[3/]											
Minimum Lending Rate (MLR)[4/]	5.36	n.a.	5.36	5.36	5.36	5.36	5.36	5.49	5.49	5.49	5.49
12-month fixed deposit rate[4/]	0.49	n.a.	0.49	0.49	0.49	0.44	0.42	0.45	0.45	0.45	0.45
Capital adequacy											
Capital funds / Risk-weighted asset (%)	20.1	19.9	19.2	19.8	20.1	20.0	20.0	19.9	19.9	19.8	n.a.
Earning and profitability											
Net profit (billion, Thai baht)	145.2	181.1	32.4	28.0	17.1	44.2	60.4	38.5	37.9	49.0	n.a.
Return on assets (ROA) (times)	0.7	0.8	0.6	0.5	0.3	0.8	1.1	0.7	0.8	0.9	n.a.
Liquidity											
Loan to Deposit and B/E (%)	92.3	94.2	92.8	93.0	92.3	92.2	92.8	93.8	94.2	92.8	n.a.

Note: [1/] Calculated by 'annualized standard deviation of return' method
[2/] Daily volatility (using exponentially weighted moving average method)
[3/] Based on data of all commercial banks
[4/] Average value of 6 largest Thai commercial banks (since july 2021)

Indicators	2020	2021	2020 Q2	2020 Q3	2020 Q4	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2
3. Household sector											
Household debt to GDP (%)	89.4	90.1	83.8	86.6	89.4	90.8	89.5	89.6	90.1	89.2	88.2
Financial assets to debt (times)	2.9	n.a.	2.9	2.9	2.9	2.9	3.0	3.0	3.0	3.1	n.a.
Non-Performing Loans (NPLs) of commercial banks (%)											
Consumer loans	2.9	2.7	3.1	2.9	2.9	2.9	2.9	2.9	2.7	2.8	2.7
Housing loans	3.8	3.5	4.0	3.9	3.8	3.7	3.7	3.6	3.5	3.5	3.4
Auto leasing	1.4	1.5	1.9	1.6	1.4	1.6	1.6	1.7	1.5	1.5	1.5
Credit cards	2.4	2.3	3.0	2.4	2.4	3.0	3.5	3.0	2.3	2.8	2.7
Other personal loans	2.4	2.3	2.5	2.3	2.4	2.5	2.5	2.4	2.3	2.5	2.4
4. Non-financial corporate sector[5/]											
Operating profit margin (OPM) (%)	6.2	8.3	4.3	7.1	7.3	9.2	8.2	7.9	8.4	7.7	8.3
Debt to Equity ratio (D/E ratio) (times)	0.8	0.7	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.7	0.7
Interest coverage ratio (ICR) (times)	3.7	6.6	2.6	4.3	5.1	6.5	6.3	5.9	6.9	6.7	6.5
Current ratio (times)	1.6	1.7	1.5	1.6	1.6	1.6	1.6	1.7	1.7	1.8	1.8
Non-Performing Loans (NPLs) of commercial banks (%)											
Large businesses	3.0	2.6	2.9	3.0	3.0	3.0	3.0	2.8	2.6	2.6	2.5
SMEs	7.0	7.2	6.4	6.7	7.0	7.2	7.3	7.3	7.2	7.2	7.2

Note: [5/] Only listed companies on Stock Exchange of Thailand (median value); with data revisions

Indicators	2020	2021	2020			2021				2022	
			Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
5. Real estate sector											
Number of approved mortgages from commercial banks (Bangkok and Vicinity) (units)											
Total	70,950	63,207	17,531	18,977	19,560	15,958	17,238	14,413	15,598	13,611	16,136
Single-detached and semi-detached houses	17,367	18,310	4,408	4,790	4,616	4,445	4,954	4,169	4,742	4,661	4,949
Townhouses and commercial buildings	23,062	21,372	5,559	6,128	6,061	5,709	6,133	4,775	4,755	4,367	4,943
Condominiums	30,521	23,525	7,564	8,059	8,883	5,804	6,151	5,469	6,101	4,583	6,244
Number of new housing units launched for sale (Bangkok and Vicinity) (units)											
Total	73,022	60,394	11,535	23,122	19,774	9,996	16,028	11,085	23,285	23,646	29,264
Single-detached and semi-detached houses	17,746	13,240	3,495	5,483	5,086	2,275	3,222	2,963	4,780	3,559	5,118
Townhouses and commercial buildings	29,370	23,709	6,046	9,396	5,796	2,765	7,492	5,597	7,855	4,378	8,234
Condominiums	25,906	23,445	1,994	8,243	8,892	4,956	5,314	2,525	10,650	15,709	15,912
Housing price index (2009 = 100)											
Single-detached houses (including land)	133.19	135.84	132.42	133.37	134.77	134.10	135.04	136.50	137.72	138.63	141.35
Townhouses (including land)	156.20	160.60	155.95	156.47	156.86	158.78	159.59	161.55	162.48	164.44	167.37
Condominiums	170.08	180.37	174.24	166.40	169.76	177.18	178.79	185.40	180.10	181.99	185.26
Land	163.37	177.73	162.19	165.13	167.12	171.03	172.21	179.22	188.43	178.80	179.57
6. Fiscal sector											
Public debt to GDP (%)	52.0	59.6	45.9	49.5	52.0	54.5	55.4	58.4	59.6	60.6	60.9
7. External sector											
Current account balance to GDP (%)	4.2	-2.1	1.5	6.4	0.5	-1.3	-2.1	-3.7	-1.3	-2.0	-6.6
External debt to GDP (%)[6/]	36.9	38.0	33.7	33.5	36.9	35.6	35.7	36.4	38.0	38.4	37.8
External debt (billion, U.S. dollars)	190.7	196.3	171.9	172.2	190.7	184.5	185.2	188.5	196.3	198.0	194.2
Short-term (%)	39.2	38.1	36.1	36.3	39.2	39.0	38.6	38.2	38.1	38.1	39.5
Long-term (%)	60.8	61.9	63.9	63.7	60.8	61.0	61.4	61.8	61.9	61.9	60.5
International reserves / Short-term external debt (times)[7/]	3.0	2.7	3.2	3.4	3.0	2.8	2.9	2.8	2.7	2.7	2.4

Note: [6/] External debt / 3-year average nominal GDP

[7/] Short-term external debt used in calculation is short-term external debt less than 1 year remaining maturity

Probability distribution of GDP growth forecast

%	2022		2023				2024		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
> 16	0	0	0	1	1	1	3	3	3
14.0-16.0	0	0	1	1	1	1	2	1	1
12.0-14.0	1	0	1	2	3	2	3	3	2
10.0-12.0	4	2	4	6	5	5	5	6	5
8.0-10.0	11	6	8	9	11	8	9	11	9
6.0-8.0	25	15	15	19	18	17	17	16	16
4.0-6.0	25	21	21	22	23	22	23	23	22
2.0-4.0	20	20	19	18	17	20	18	20	21
0.0-2.0	11	16	16	10	10	11	10	10	12
(-2.0)-0.0	3	11	8	6	5	6	7	5	5
(-4.0)-(-2.0)	1	5	3	2	2	3	2	2	2
(-6.0)-(-4.0)	0	1	1	1	2	1	2	1	1
(-8.0)-(-6.0)	0	1	1	0	1	1	1	1	1
< -8	0	1	2	2	2	2	2	1	1

Probability distribution of headline inflation forecast

%	2022		2023				2024		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
> 10	0	0	0	0	0	0	0	0	0
9.0-10.0	0	0	0	0	0	0	0	0	0
8.0-9.0	14	4	0	0	0	0	0	0	0
7.0-8.0	70	24	1	0	0	0	0	0	0
6.0-7.0	16	47	9	1	0	0	0	0	0
5.0-6.0	0	22	28	4	1	0	0	0	1
4.0-5.0	0	2	39	15	6	2	2	2	3
3.0-4.0	0	0	20	30	17	9	8	9	9
2.0-3.0	0	0	3	33	29	21	20	20	20
1.0-2.0	0	0	0	15	29	31	30	29	29
0.0-1.0	0	0	0	2	14	25	26	25	25
(-1.0)-0.0	0	0	0	0	3	9	11	11	11
(-2.0)-(-1.0)	0	0	0	0	0	2	2	2	2
< -2	0	0	0	0	0	0	0	0	0

Probability distribution of core inflation forecast

%	2022		2023				2024		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
> 5.5	0	0	0	0	0	0	0	0	0
5.0-5.5	0	3	0	0	0	0	0	0	0
4.5-5.0	0	11	2	1	0	0	0	0	0
4.0-4.5	2	26	7	4	2	1	1	1	1
3.5-4.0	24	37	17	10	5	3	3	3	3
3.0-3.5	57	21	28	19	10	6	6	6	6
2.5-3.0	16	2	30	26	18	12	11	11	11
2.0-2.5	0	0	14	25	24	19	17	17	16
1.5-2.0	0	0	2	12	24	23	21	21	20
1.0-1.5	0	0	0	2	13	21	21	21	21
0.5-1.0	0	0	0	0	4	11	13	14	14
0.0-0.5	0	0	0	0	0	3	5	6	6
(-0.5)-0.0	0	0	0	0	0	1	1	1	2
< -0.5	0	0	0	0	0	0	0	0	0

Pursuing Sustainable Economic Well-Being

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