ธนาคารแห่งประเทศไทย
BANK OF THAILAND

Monetary Policy Report Q3/2023

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
Mrs. Roong Mallikamas	Member
Mr. Paiboon Kittisrikangwan	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 27, 2022, the Cabinet approved the monetary policy target for 2023, 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 2023. 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. Furthermore, 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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Data in this report is as of 26 September 2023 (1 day prior to the monetary policy decision)

Global economy

Trading partners are expected to grow 2.7% in 2023 and 2.5% in 2024. The US economy continued to gain traction driven by growth in the services sector. The Chinese economy recovered slower than expected due to real estate problems, impacting confidence and domestic demand, as well as faltering recovery of exports. This would negatively impact Asian merchandise exports as a whole. However, Asian merchandise exports are expected to gradually recover in early 2024 on the back of a recovery in global goods demand, inventory rundowns, and an upturn in the global electronics cycle (Box 1: Exports recovery in Asia), all of which would support trading partners' economic recovery in the period ahead. **Nonetheless, the global economic outlook is still subject to risks** stemming from the lagging effects of major central banks' monetary policy actions, slower-than-expected recovery in global trade due to weak demand from China, and lingering geopolitical risks, all of which would pose implications for monetary policy and global economic growth in the period ahead.

The Thai Economy

The Thai economy continues to recover with growth projected to be 2.8% in 2023 and 4.4% in 2024. For 2023, economic growth is revised down on account of slower-than-expected recovery in both merchandise exports and tourism, partly due to softening recovery in the Chinese economy and the global electronics cycle. Private consumption growth should remain strong underpinned by spending in services and would remain a key driver of growth for this year.

For 2024, economic growth should pick up from both domestic and external demand, which would be supported by (1) a strong expansion of private consumption benefiting from a robust labor market recovery, notably in tourism-related sectors, and additional stimulus from government policies; (2) the continuing recovery in tourism sector from increasing foreign tourist arrivals; and (3) the revival of merchandise exports in line with the recovery in global demand and an upturn in the global electronics cycle. **The economic growth in 2024 has an upside risk** from stronger-than-expected stimulus from government policies. Meanwhile, some downside risks remain namely a weaker-than-expected global economic recovery.

Inflation

Headline inflation is expected to be within the target range, averaging at 1.6% in 2023 and 2.6% in 2024. Headline inflation in 2023 is likely to remain low due to government subsidies, subdued raw food prices, and the high base effect. **Meanwhile, core inflation is expected to average 1.4% in 2023 and 2.0% in 2024.** Core inflation in 2024 is expected to rise in tandem with stronger economic recovery, additional impetus from the government's economic policies, and higher food prices due to El Niño. **Nonetheless, there remains upside risks to be monitored,** especially in 2024, including greater demand-side pressures related to government economic policies and higher food prices should the El Niño phenomenon intensify. (Box 2: El Niño: a risk to Thai economy going forward)

Financial Conditions and Financial Stability

Overall financial conditions tightened somewhat. Private sector funding costs have increased as commercial banks' interest rates rose in tandem with the policy rate. Long-term government bond yields rose in line with US Treasury yields due to market expectations that the Fed will keep policy rate higher for longer, as well as concerns that Thai government bond issuances could increase in the period ahead to finance government stimulus measures. Credit spreads remained largely unchanged from the previous quarter. In terms of financing volume, businesses were still able to mobilize funds although private credit growth has slowed partly due to a normalization of lending activity, following the strong expansion thanks to financial measures during the COVID-19 pandemic. Business credit is expected to recover in line with the recovery in economic activities going forward. **On exchange rates, the baht against the US dollar depreciated from the previous quarter.** The baht's depreciation was driven by market expectations about the Fed's monetary policy, the renminbi depreciation, lower-than-expected outturns in Thai economy, and net capital outflows from both bond and stock markets in Q3/2023.

The overall financial system remains resilient with commercial banks maintaining high levels of capital and loan loss provision. However, credit quality must be monitored as debt serviceability of some SMEs and households could be affected by higher debt burden and slower income recovery. The MPC supports the continuation of debt restructuring measures as well as targeted measures and sustainable debt resolution for vulnerable groups, particularly responsible lending measures.

Monetary Policy Decisions in the Third Quarter of 2023

At the meetings on 2 August 2023 and 27 September 2023, the MPC voted unanimously to raise the policy rate by 0.25 percentage points from 2.00% to 2.25% and from 2.25% to 2.50%. The MPC deemed a continuation of gradual policy normalization to be appropriate in light of the growth and inflation outlook. The MPC assessed **the overall economic recovery to be intact.** Despite slower growth this year due to softened global demand, growth should pick up in 2024, supported by both domestic and global demand. **Inflation is projected to be within the target range but would average higher in 2024** in line with the economic recovery and supply pressures related to El Niño. The Committee is monitoring additional impetus to growth and inflation from government policies. **The MPC agreed that an appropriate policy rate level would help keep inflation sustainably within the target range and foster long-term macro-financial stability** by preempting the buildup of financial imbalances that could arise in a low-for-long interest rate environment (Box 3: Appropriate monetary policy for long-term macroeconomic and financial stability)

Under the prevailing monetary policy framework, the Committee seeks to maintain price stability, support sustainable growth in line with potential, and preserve financial stability. **In pursuit of these objectives and having normalized policy gradually up until the most recent meeting, the Committee deems the current policy interest rate to be consistent with long-term sustainable growth. In deliberating monetary policy going forward, the Committee will take into account growth and inflation outlook, including upside risks from government policies.**

Global Economy: Key Issues

The global economy would continue to expand driven by the services sector this year. Manufacturing sector has started to show signs of improvement. Meanwhile, China's economic recovery would be slower than expected.

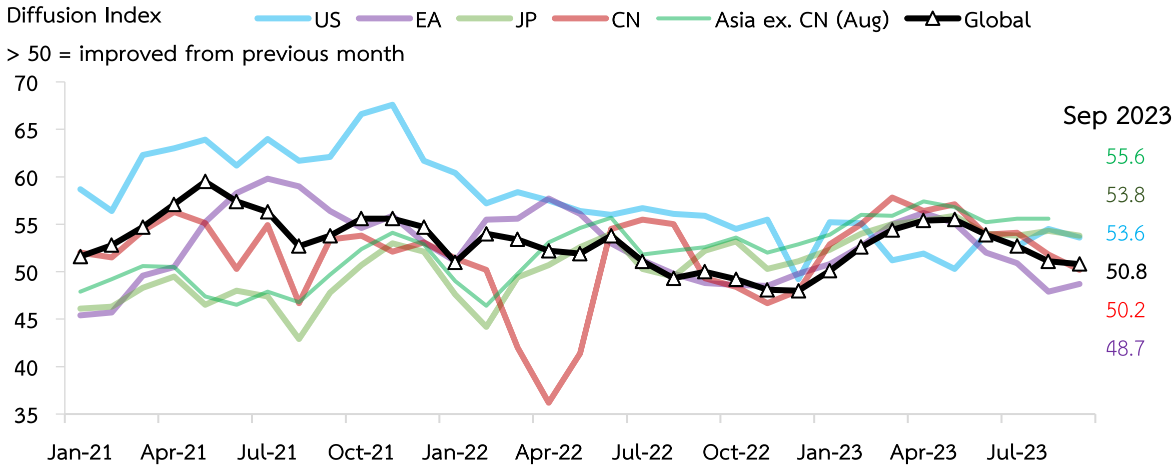
Inflation in many countries have gradually declined with falling energy and commodity prices, prompting most central banks to keep their policy rates on hold.

Trading partners' growth outlook faces downside risks from the lagging effects of monetary policy tightening, the slowdown in global trade, and geopolitical tensions.

Services sector would continue to drive global growth in 2023, while manufacturing sector has shown signs of recovery.

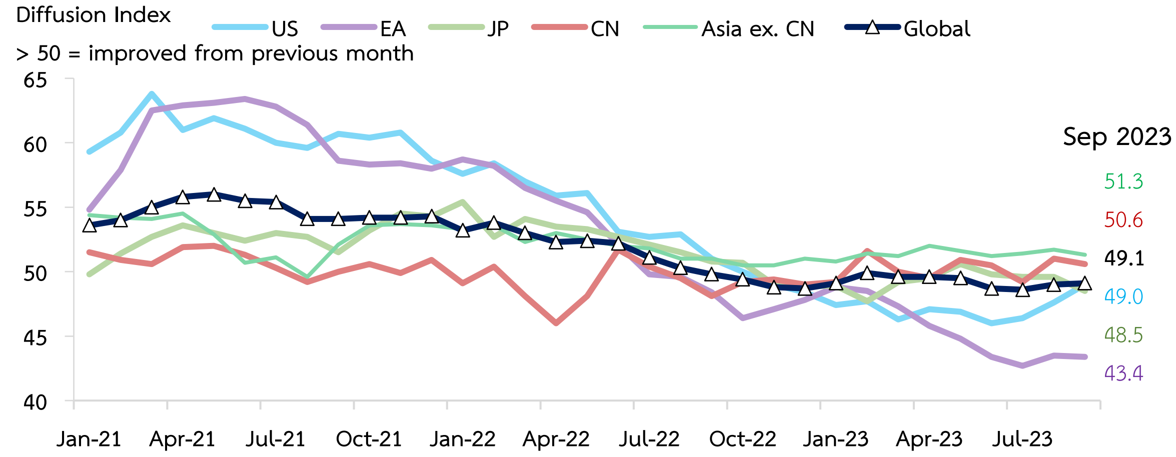
The US economy has continued to gain traction as reflected by strong private consumption and labor market indicators.

Purchasing Managers' Index (Services)



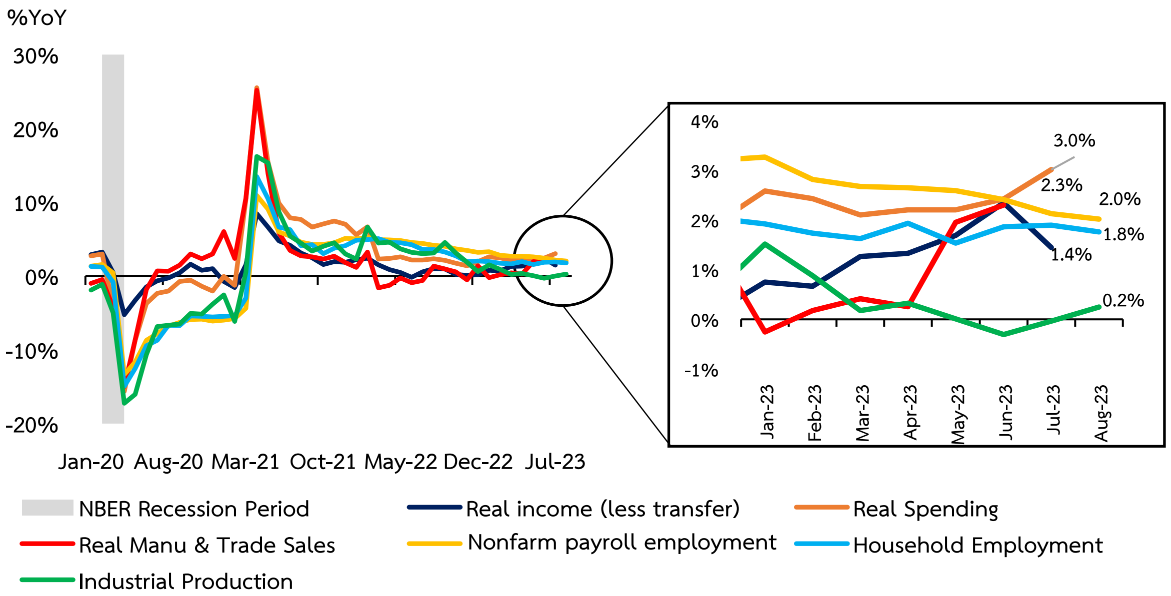
Source: CEIC, IHS Markit

Purchasing Managers' Index (Manufacturing)



Source: CEIC, IHS Markit

US economic indicators

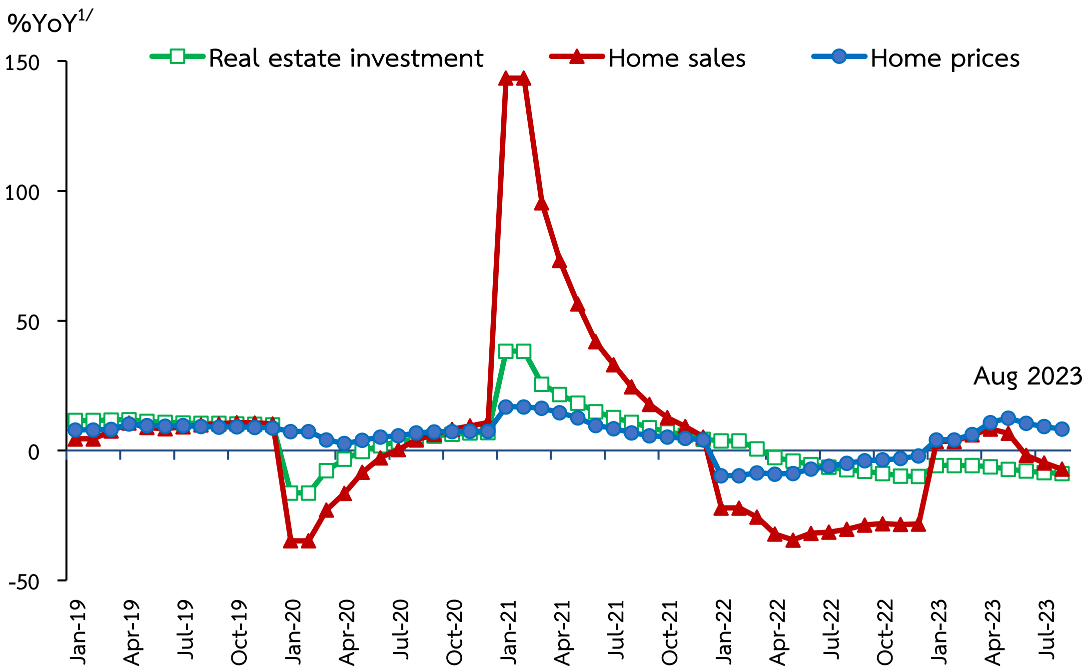


Source: CEIC, FRED, Bloomberg, BOT calculation

Economic activities in the services sector would continue to drive global growth this year, while manufacturing activities have started to show signs of improvement. Looking ahead, global demand is likely to slowdown in the services sector after having accelerated earlier, but should pick up in the manufacturing sector as inventories are run down. Economic fundamentals in the US remain strong, especially private consumption and labor market.

China's economic recovery would be slower than expected due to real estate problems impacting domestic demand. Meanwhile, China's exports have yet to see significant recovery.

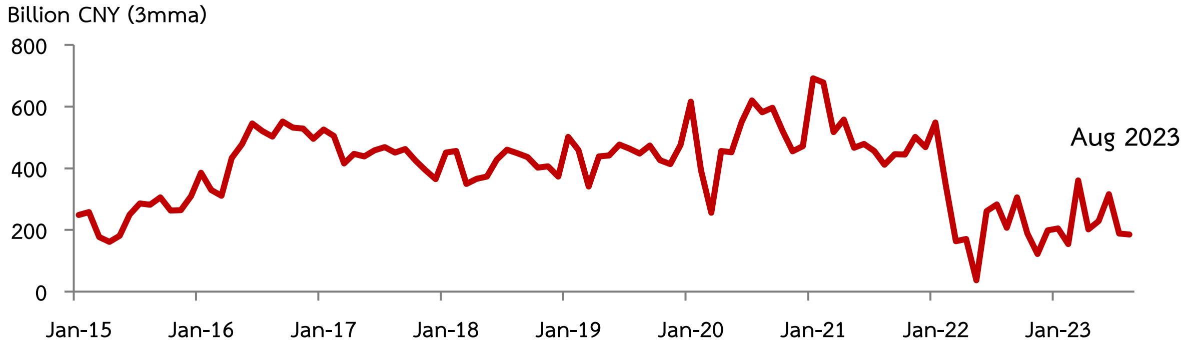
China's home sales, home prices, and real estate investment growth rates



Note: [1/] calculated by year-to-date basis

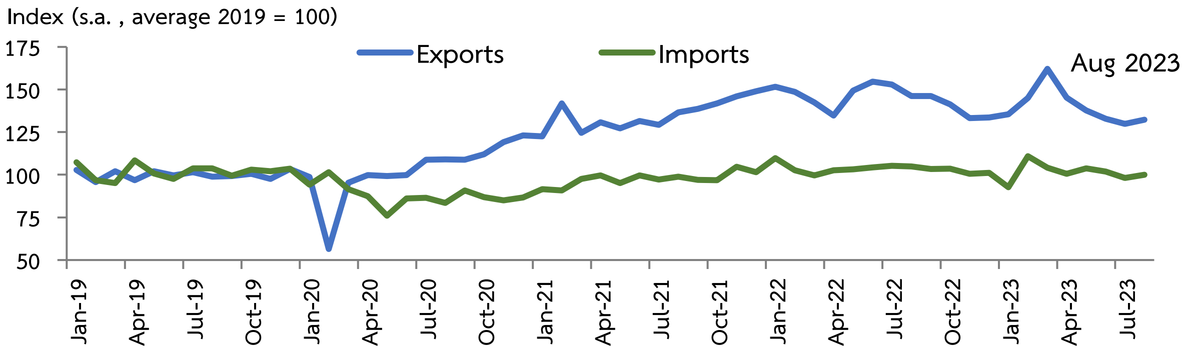
Source: CEIC

China's new loan amount



Source: CEIC

China's exports and imports indices



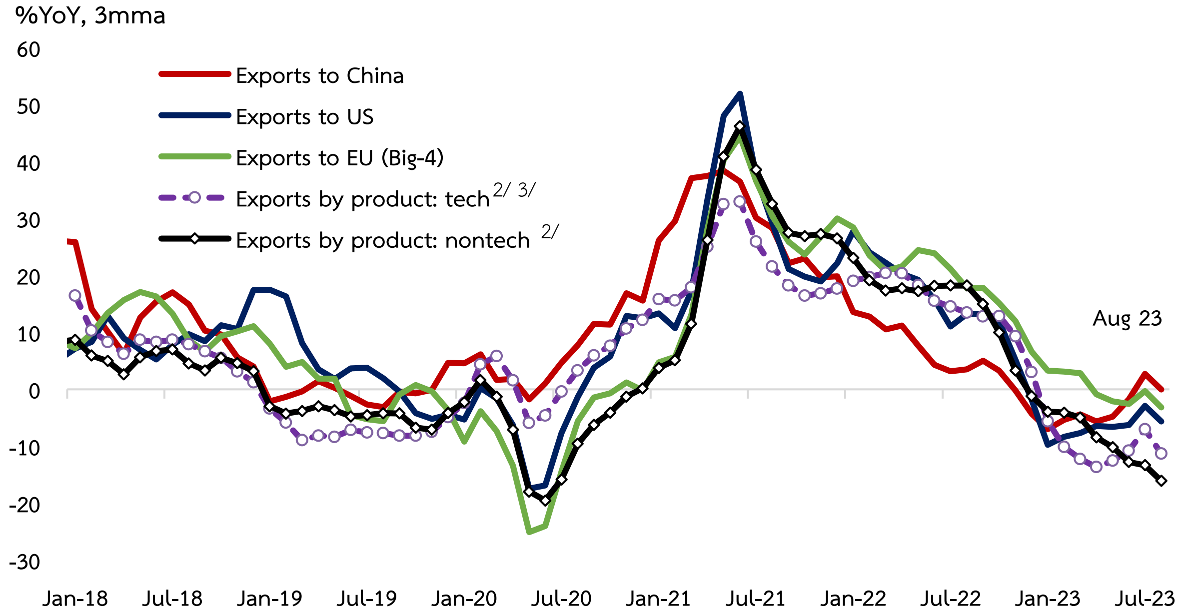
Source: CEIC

China's economic recovery would be slower than expected due to lingering problems in the real estate sector impacting confidence and domestic demand. This is reflected in the declines in real estate sector indicators including sales volume, price, and investment, as well as low loan growth. Meanwhile, the Chinese government is not pursuing large-scale economic stimulus and is focused on achieving more sustainable growth as reflected in their recent policy actions which only address related problem areas, such as policy rate cuts and measures aimed at supporting the real estate sector. **China's export recovery is largely stable but remains weak overall.**

Asian merchandise exports would recover in early 2024

driven by exports of electronics, which have started to show improvement signs.

Asian[1/] exports to US, EU, and China



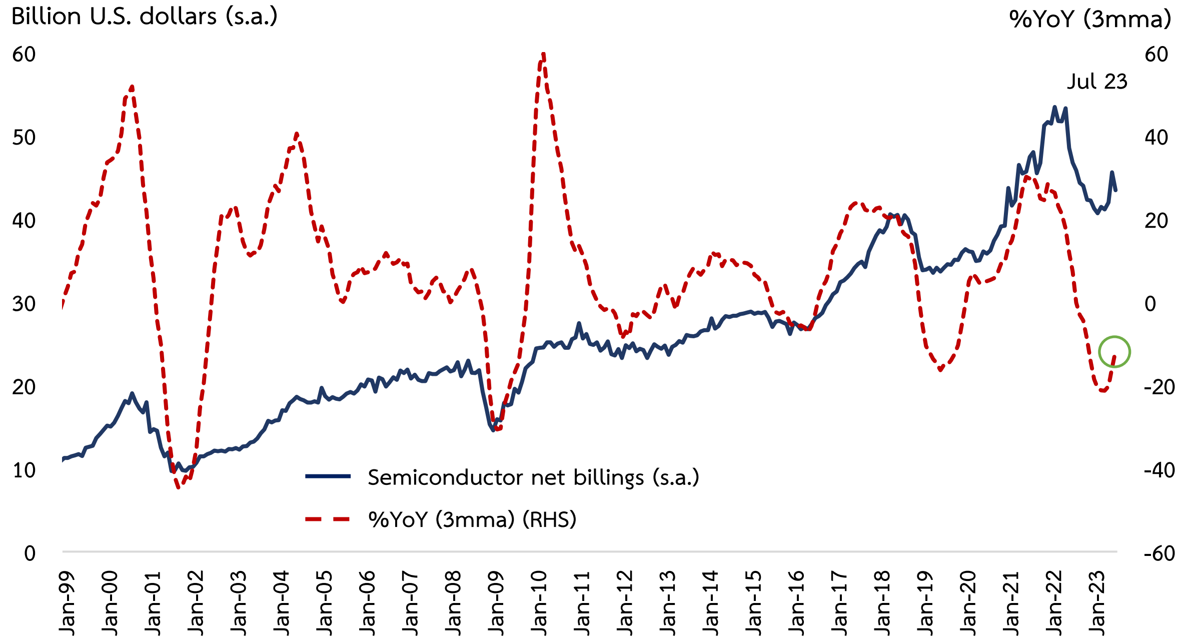
Note: [1/]Asia (ex China) includes JP MY HK SG ID PH KR VN , with export data of ID and PH using data as of Jul 2023

[2/]Asian exports by product includes JP MY SG ID PH KR TW

[3/]Tech includes electronics equipment, product and machinery

Source: CEIC; BOT Calculation

Worldwide semiconductor billings



Source: WSTS (World Semiconductor Trade Statistics), BOT calculation

Asian merchandise exports in 2023 have yet to see a firm recovery, especially exports of non-electronics goods. This is due to the slowdown in global demand, and high inventory levels despite the gradual rundown over the recent period. Nonetheless, electronics exports have started to show improvement signs, especially goods related to Artificial Intelligence (AI). **It is expected that Asian merchandise exports would pass its lowest point in late 2023, and gradually recover in early 2024** driven by the gradual recovery in global demand and an upturn in the global electronics cycle (Box 1: Exports recovery in Asia).

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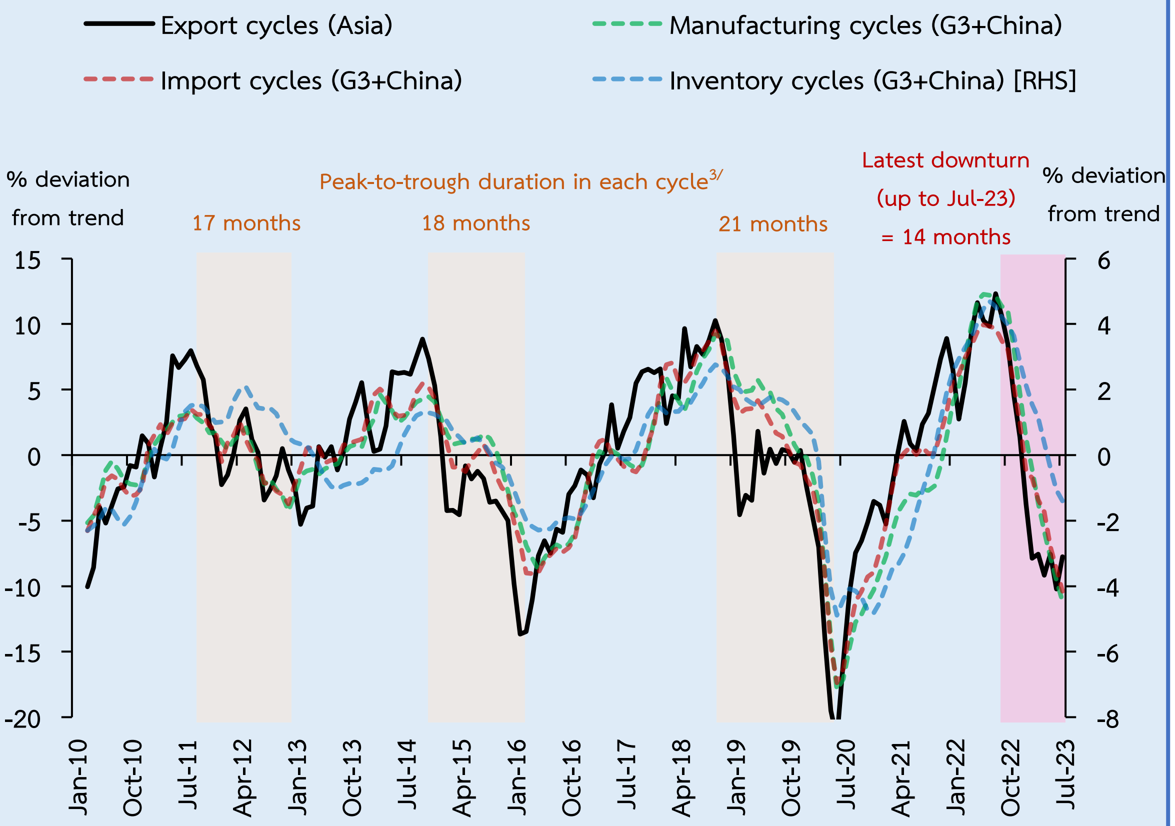
Box 1: Exports recovery in Asia

Since mid-2022, Asian merchandise exports have been declining with slowing global demand (Chart 1) resulting from (1) monetary policy tightening in many countries and (2) high inventory levels as businesses accelerated inventory accumulation during the COVID-19 pandemic when raw materials were in short supply and shipping times were longer.

Asian exports tend to be correlated with imports by G3 countries and China. Asia's key export markets are G3 countries (US, euro area, and Japan) and China, accounting for 48% of total exports. **Meanwhile, imports by G3 countries and China would recover after their inventories have fallen below trend levels for some time,** only then will imports and manufacturing activities start to pick up to replenish inventories.

At present, inventory levels in G3 (especially US and the euro area), and China have gradually declined. Exports in some Asian economies have started to improve namely South Korea and Taiwan, which are in line with declining inventories and the ongoing recovery in Asian exports overall. Historical data shows that declines in imports, manufacturing activities, and inventory stock of G3 countries and China would last approximately 20 months on average. **Taking into consideration declining inventory levels among G3 economies and China, improvements in Asian exports, and historical trends in imports, manufacturing, and inventory accumulation, it can be inferred that the cycle would be reach its lowest point in late 2023 and Asian exports would gradually recover in early 2024.**

Chart 1: Asian export cycles[1/] and import, manufacturing and inventory cycles of G3 countries and China



Note: [1/]Asia includes KR TW SG ID PH MY; [2/]G3 includes US EA JP; [3/]Average down cycle = 20 months

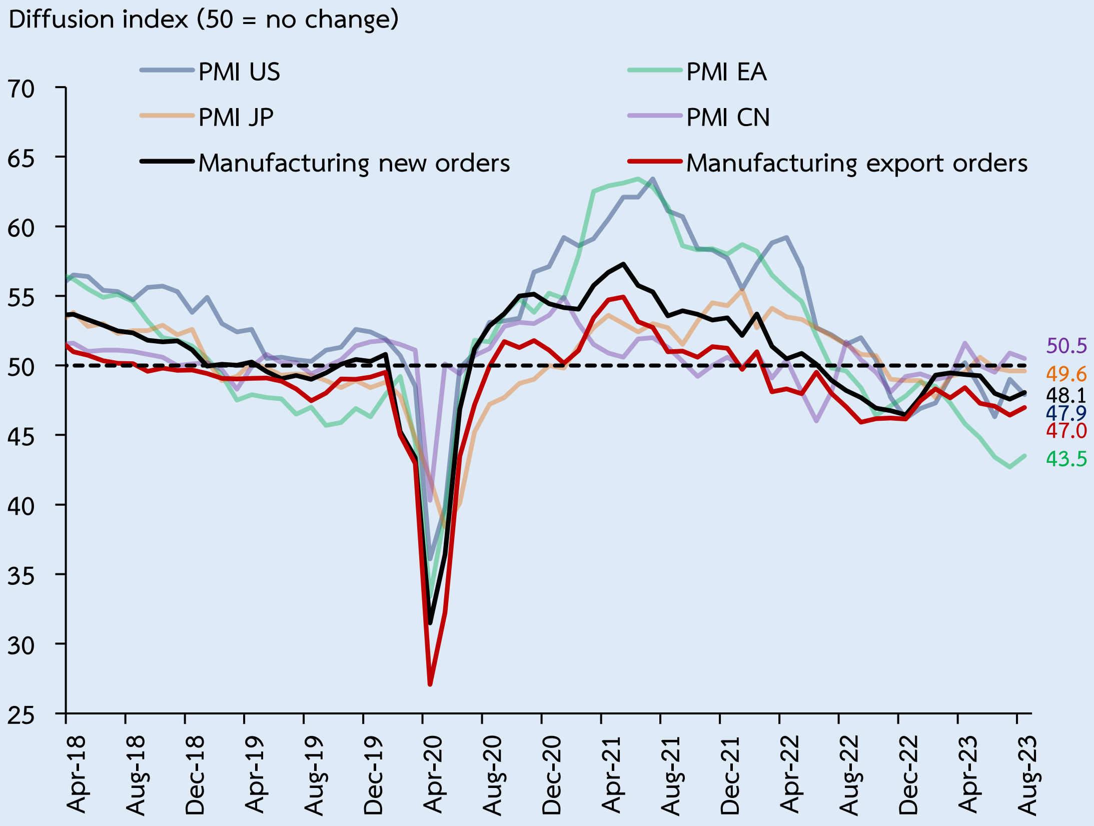
Source: CEIC; BOT Calculation

Box 1: Exports recovery in Asia

Purchasing Manager's Index (PMI), a leading indicator for manufacturing activities among G3 countries and China **(Chart 2)**, shows that new orders and new export orders have started to stabilize. Meanwhile, PMI for many countries have also started to see some improvements, indicating that the down cycle for Asian exports is nearing its end. **A closer look at each product group reveals that some of Asia's export products would likely recover sooner than the overall export cycle** such as **(1) automobile** especially exports to the US and the euro area, which have continued to see improvements as input shortages abated and demand recovered. This is in line with the resumption in automobile inventory accumulation as the stock levels in the US and euro area are still below pre-COVID levels; and **(2) electronics**, which are expected to recover in Q4/2023 mainly on account of electronics inventory levels having declined for quite some time, and higher demand for more advanced chips required for AI training. At present, South Korean and Taiwanese exports have started to see improvements recently.

In summary, Asian exports are expected to reach its lowest point in late 2023 before recovering in early 2024, driven by a recovery in imports and manufacturing among G3 countries and China after inventory accumulation have slowed and inventory levels are low. The recovery in Asian exports expected for late-Q3/2023 in the previous assessment was delayed due to China's slower-than-expected economic recovery. Nonetheless, automobile and electronics exports are likely to recover sooner than overall exports due to low inventory levels of both product groups as well as improvements in demand.

Chart 2: PMI of G3 countries and China, global manufacturing new orders and export orders indices

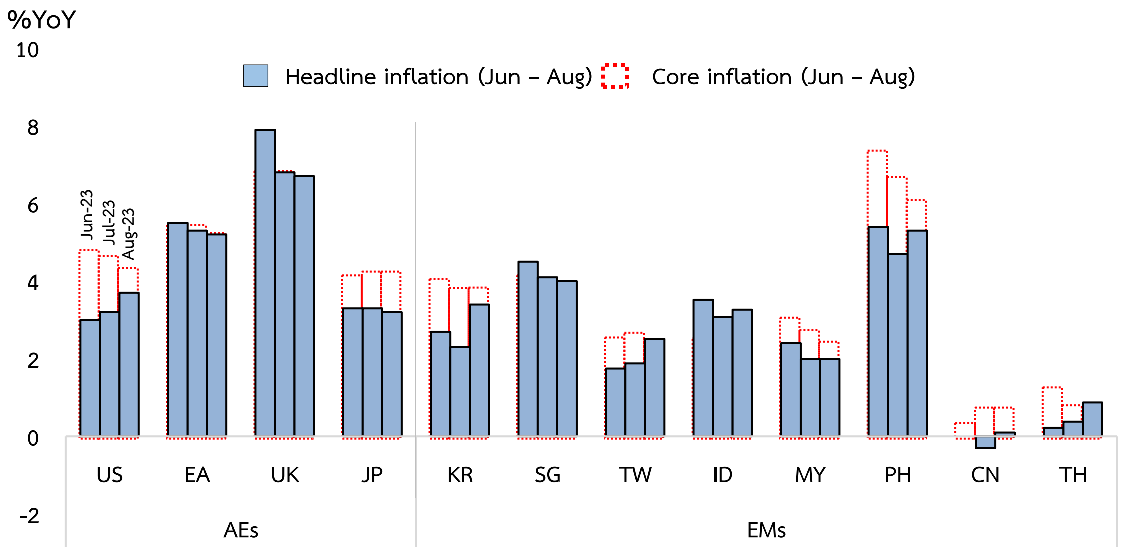


Note: * data from global PMI manufacturing

Source: CEIC

Global inflation gradually declined mainly due to falling energy prices.
Most central banks are now keeping their policy rates on hold.

Headline inflation and core inflation



Expectations of the Fed's monetarty policy in 2023 - 2024

Rate	2022*	2023	2024
Fed funds rate assumption (% at year end)	4.25 - 4.50	5.50 – 5.75 (5.00 - 5.25)	4.75 - 5.00 (3.75 - 4.00)

Note: * denotes outturn, ( ) denotes forecast in Monetary Policy Report Q2/2023

The Federal Reserve (Fed) raised its policy rate by 25 bps to 5.25-5.50% at the FOMC Meeting on 26 July 2023, and kept the policy rate on hold at the subsequent meeting on 20 September 2023. The decisions were underpinned by strong economic growth and tight labor market conditions. In this regard, the BOT revised up its assumption for the federal funds rate by 50 bps throughout the forecast period, while reducing the frequency of rate cuts in 2024 from 5 to 3 times. The revision was on account of stronger economic outlook in the US and persistently high inflation.

The European Central Bank (ECB) raised its policy rate by 25 bps to 4.0% at the Governing Council Meeting on 14 September 2023 as inflationary pressures remain elevated. The ECB also signaled end of tightening cycle and discontinued reinvestments under the Asset Purchase Program (APP) as previously announced in June 2023. Looking ahead, the ECB is likely to keep its policy rate on hold, the duration of which would be evaluated to appropriately account for uncertainties surrounding the current growth momentum.

Most Asian central banks have started to put a hold to their policy rate in order to evaluate the monetary policy transmission from earlier rate hikes. This was also due to falling headline inflation although core inflation in some countries remain high. Nevertheless, there are possibilities that some Asian central banks might raise rates further to address inflation risks.

Trading partners' growth forecast for 2023 is revised up slightly on account of better-than-expected Q2/2023 economic outturns for US and Japan, while the forecast for 2024 is revised down as the recovery in the Chinese economy and Asian exports have been slower than expected.

Assumptions of Trading Partners' Growth

%YOY	Share of exports in 2022[1/] (%)	2022[2/]	2023		2024	
			MPR Q2/23	MPR Q3/23	MPR Q2/23	MPR Q3/23
US	16.6	2.1	1.2	1.9	1.1	1.0
Euro area	6.8	3.4	0.8	0.7	1.2	1.2
Japan	8.6	1.0	1.1	1.8	1.2	1.0
China	12.0	3.0	5.9	5.0	5.1	4.6
Asia[3/]	21.5	3.8	3.6	3.3	4.1	3.8
Total[4/]	70.8	2.9	2.6	2.7	2.7	2.5

Note: [1/] Share of total Thai exporting values to 13 key trading partners in 2022
[2/] Outturns with backward revision for some countries
[3/] Asia (ex. Japan and China) includes Singapore (3.6%), Hong Kong (3.5%), Malaysia (4.4%), Taiwan (1.6%), Indonesia (3.6%), South Korea (2.2%), and the Philippines (2.6%).
[4/] Including UK (3.9%) and Australia (1.4%)

Trading partners' growth forecast for 2023 is revised up slightly on account of stronger-than-expected growth outturns in Q2/2023 for US and Japan. In particular, the US has continued to see strong growth driven mainly by the services sector, while Japan's exports growth was stronger than expected. However, **trading partners' growth forecast for 2024 is revised down** on account of China facing problems in its real estate sector and slower-than-expected exports recovery in Asia (ex. China).

Risks to trading partners' growth outlook remain skewed to the downside.

Downside risks: **Slower-than-expected global economic recovery** due to **(1) the lagging effects of monetary policy actions** both from the recent policy rate hikes and possibilities of further rate hikes as the inflation outlook faces risks of El Niño being more severe than expected; **(2) sharper-than-expected global trade slowdown** especially due to softer demand from China; and **(3) geopolitical tensions** especially further escalation of US-China tensions as well as the prolonged China-Taiwan and Russia-Ukraine conflicts.

Upside risks: **Stronger-than-expected growth among Asian economies** due to **(1) increased international tourism** resulting in a strong recovery in the service sectors, especially the return of Chinese tourists to countries in the region; and **(2) stronger-than-expected economic growth in China** boosting Asian exports.

The Thai Economy: Key Issues

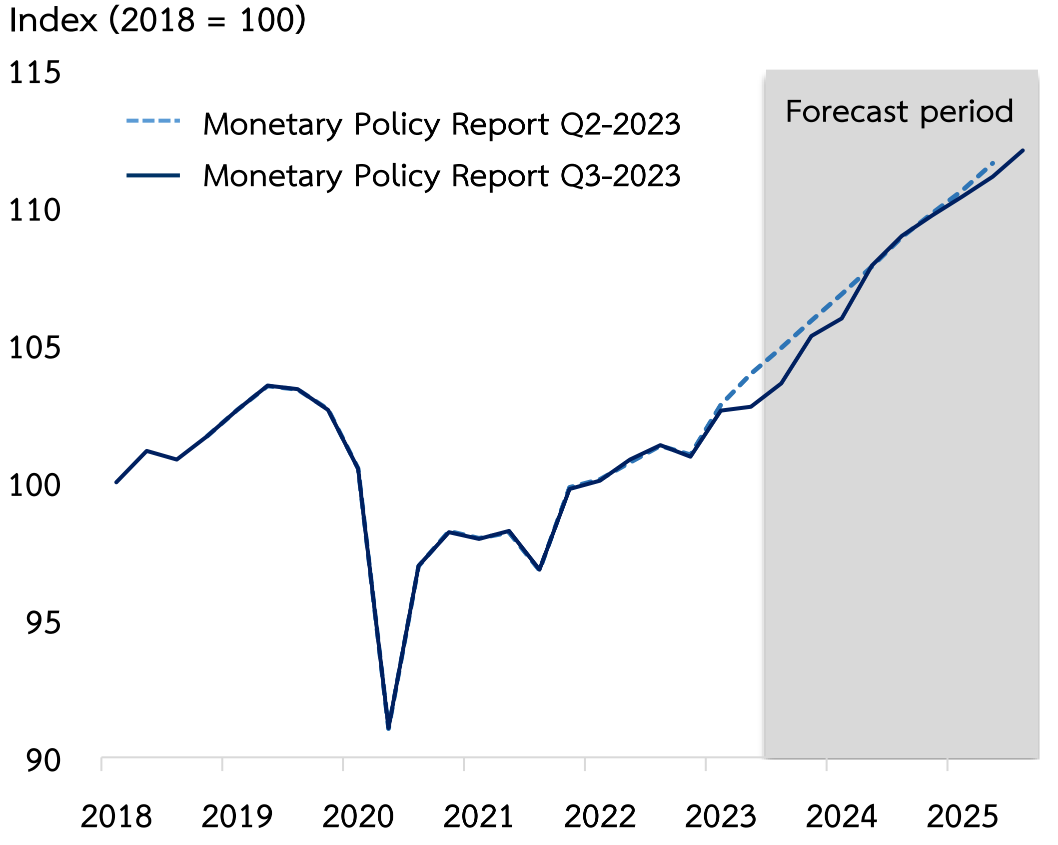
The Thai economy continued to recover driven mainly by private consumption. For 2023, growth is revised down on account of slower-than-expected recovery in both merchandise exports and tourism. For 2024, growth should pick up supported by both external and domestic demand.

Labor market shows positive signs, especially employment in the tourism sector. Meanwhile, labor market conditions in the manufacturing sector remain stable. Workers in the agricultural sector would be negatively impacted by El Niño in the period ahead.

Headline inflation is expected to return to the target range but is subject to upside risks. Core inflation forecast for 2024 is revised up and still subject to upside risks from government policies and potentially higher food prices.

The Thai economy is projected to grow 2.8% in 2023 and 4.4% in 2024. Growth projection for 2023 is revised down on account of the delayed recovery in exports and tourism. However, growth should pick up in 2024 supported by both external and domestic demand, with additional stimulus from government policies.

Real GDP



Growth (%YoY)	2022*	2023	2024
GDP growth	2.6	2.8 (3.6)	4.4 (3.8)
Domestic Demand	4.1	3.2 (2.5)	4.1 (3.2)
Private Consumption	6.3	6.1 (4.4)	4.6 (2.9)
Private Investment	5.1	1.0 (1.7)	4.9 (4.9)
Government Consumption	0.2	-3.1 (-2.8)	1.4 (1.1)
Government Investment	-4.9	1.3 (2.5)	4.8 (6.8)
Export volume of goods and services	6.8	3.8 (7.3)	6.7 (6.7)
Import volume of goods and services	4.1	-0.1 (0.9)	6.3 (5.5)
Current account (billion U.S. dollars)	-15.7	5.0 (6.0)	10.0 (12.5)
Value of merchandise exports (%YoY)	5.4	-1.7 (-0.1)	4.2 (3.6)
Value of merchandise imports (%YoY)	14.0	-0.1 (0.7)	4.1 (4.2)
Number of foreign tourists (million persons)	11.2	28.5 (29.0)	35.0 (35.5)

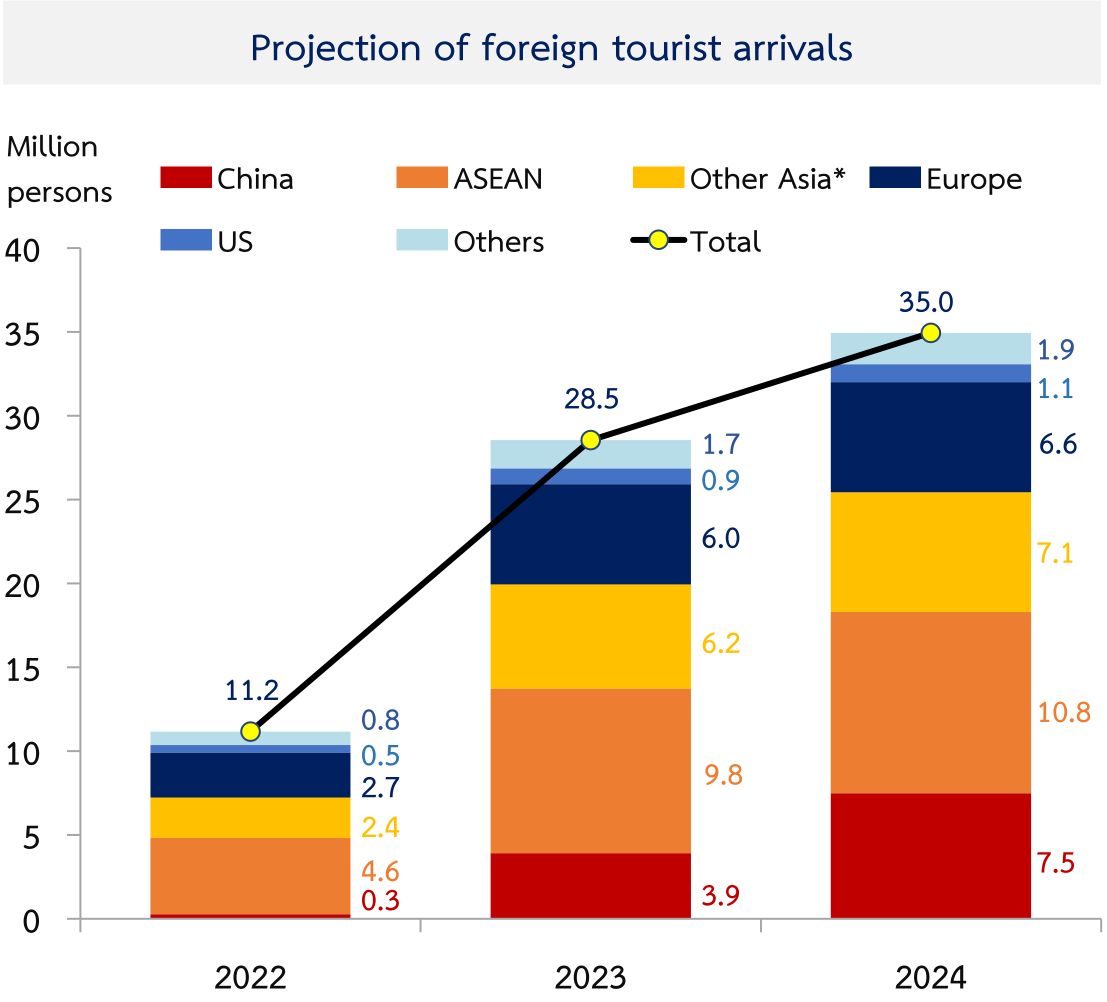
Note: * = outturn; ( ) = previous forecast from Monetary Policy Report Q2-2023

Source: NESDC and BOT forecast

Summary of economic forecasts

Exports of services	**Revised down slightly for both 2023 and 2024.** Foreign tourist arrivals forecasts are revised down on account of the slow recovery in the number of Chinese tourists, while other nationalities would continue to see a strong recovery. Projected tourism income is also revised down in line with the lower number of Chinese tourists who typically have higher spending per head. While tourists from other countries increase firmly, they are short-haul tourists such as Malaysians which have lower spending per head. Therefore, they cannot offset the decline in tourism receipts.
Private consumption	**Revised up** mainly on account of services spending, especially in hotels and restaurants. This is in line with improving consumer confidence and the recovery in tourism. **Private consumption would continue to expand in 2024** supported by the ongoing economic recovery and additional stimulus from government policies.
Merchandise exports (Value)	**Merchandise exports would contract due to the slowdown in demand from China.** The ongoing global economic recovery is driven primarily by services sector and thus would have limited spillover benefits to Thai exports. **Exports would resume positive growth in 2024** supported by an upturn in the electronics cycle early next year as well as the recovery in global demand for goods.
Private investment	**Revised down in 2023** on account of lower-than-expected investment outturns. However, **private investment is expected to see strong growth in 2024** driven by the recovery in exports, investments in new industries, and new public private partnership (PPP) projects namely the high-speed railway linking 3 airports which has been progressing well. Additionally, there are positive signals from increasing machinery imports, construction permits, and investment approvals by the Board of Investment (BOI).

Foreign tourist arrivals would continue to recover, but would turn out slightly lower than previously expected due to the slow recovery in the number of Chinese tourists, while the recovery for other nationalities is still well underway.



Note: * includes Middle East

Source: Ministry of Tourism and Sports and BOT forecast

Projection of foreign tourist arrivals

	2022*	2023	2024
Million persons	11.2	28.5 (29.0)	35.0 (35.5)
% of 2019 value	28%	72% (73%)	88% (89%)

Note: * denotes outturn; ( ) denotes previous forecast from Monetary Policy Report Q2-2023

- **Revised down foreign tourist arrivals projection for 2023 to 28.5 million persons** on account of the slower-than-expected recovery in the number of Chinese tourists. While visa-exemptions have benefited tourist arrivals from China, Chinese tourists are spending more cautiously due to the current economic conditions in China. Nonetheless, tourist arrivals from other countries such as Malaysia, Russia, South Korea, and Taiwan have continued to recover.
- **Revised down foreign tourist arrivals projection for 2024 to 35 million persons** on account of a slow recovery in the number of Chinese tourists throughout the forecast period. However, Chinese tourists and tourists of other nationalities are still expected to recover given improved tourist demand and increased number of flights to Thailand.

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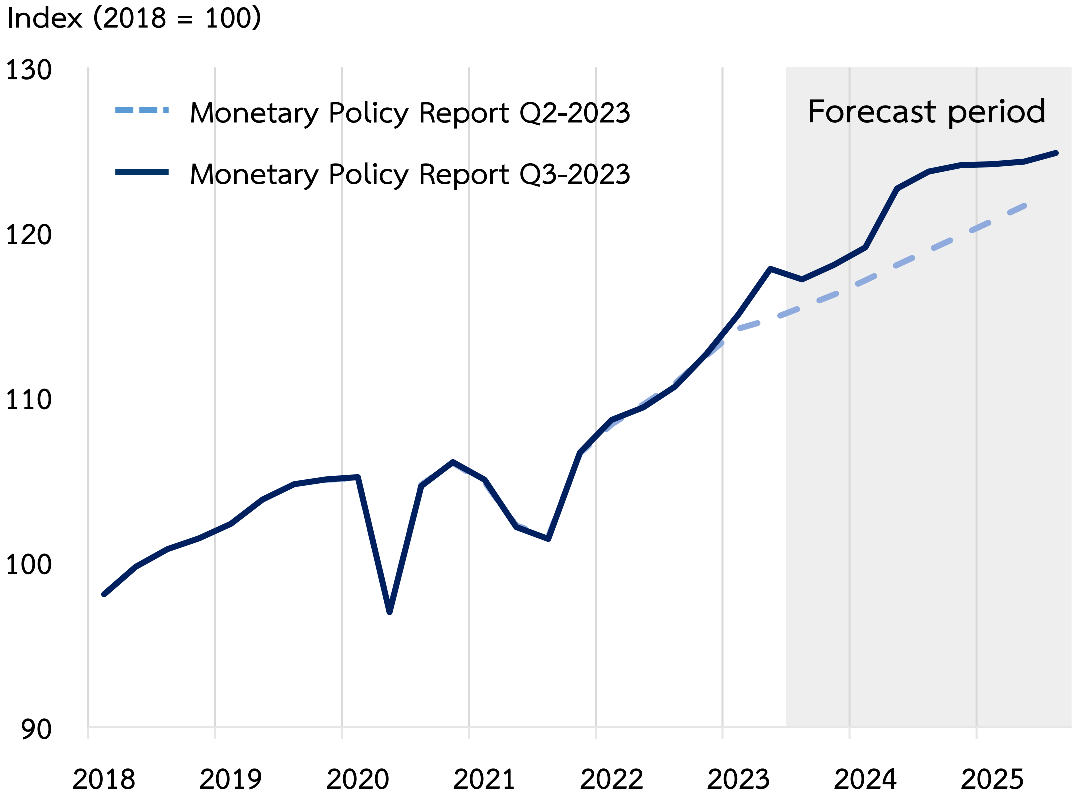
Private consumption should continue to expand due to a recovery in the services sector, improvements in tourism and merchandise exports from stronger external demand going forward, as well as stimulus from government policies.

Real Private Consumption



Source: BOT forecast

Private consumptiom projection

%YoY	2022*	2023	2024
Private consumption	6.3	6.1 (4.4)	4.6 (2.9)

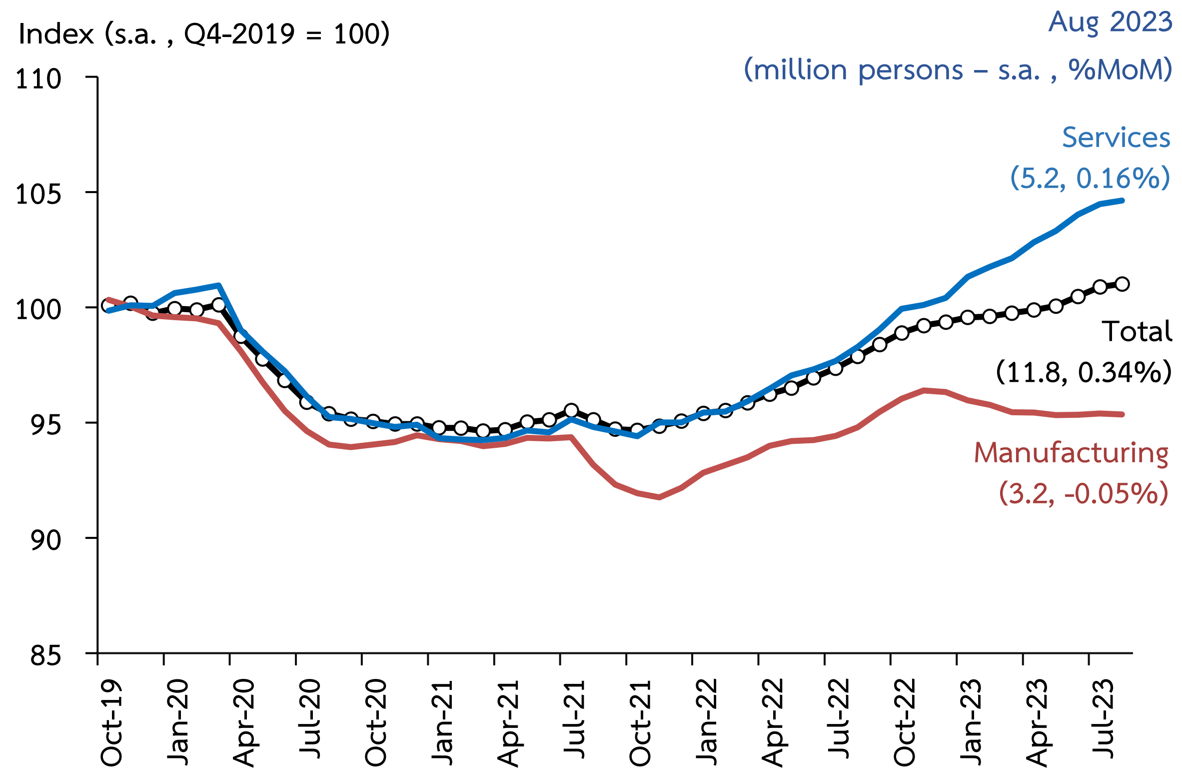
Note: * denotes outturn; ( ) denotes previous forecast from Monetary Policy Report Q2-2023

The baseline projection has taken into account some of the effects of government policies as follow:

- **10,000 baht digital wallet:** The government announced that it would allocate 560 billion baht for money transfers to individuals in the first half of 2024. However, the implementation model remains uncertain. Empirical analysis suggests that the fiscal multiplier of money transfers are generally lower than direct government consumption or investment, although it depends on the target group, terms and conditions, and prevailing economic conditions at the time. As such, more clarity about the implementation is required before an assessment on the overall economic impact can be made.
- **Minimum wage increase:** It is expected that the minimum wage will be raised to 400 baht per day within 2024. However, the overall impact on average wages remain uncertain as it would depend on the effective date, the size of the increase, and the coverage area where the new minimum wage will be applied. The impact would also depends on the implementation of new minimum wage by employers, who will also take into account the compensatory measures from the government.

Labor market shows positive signs as reflected in the increasing number of insured persons under the Social Security Act in the services sector in August 2023, especially in tourism-related services. However, labor market conditions in the manufacturing sector is stable. The rising underemployment and unemployment, especially for new graduates, should be monitored going forward. Workers in the agricultural sector would be impacted by El Niño (Box 2: El Niño – a risk to Thai economy going forward)

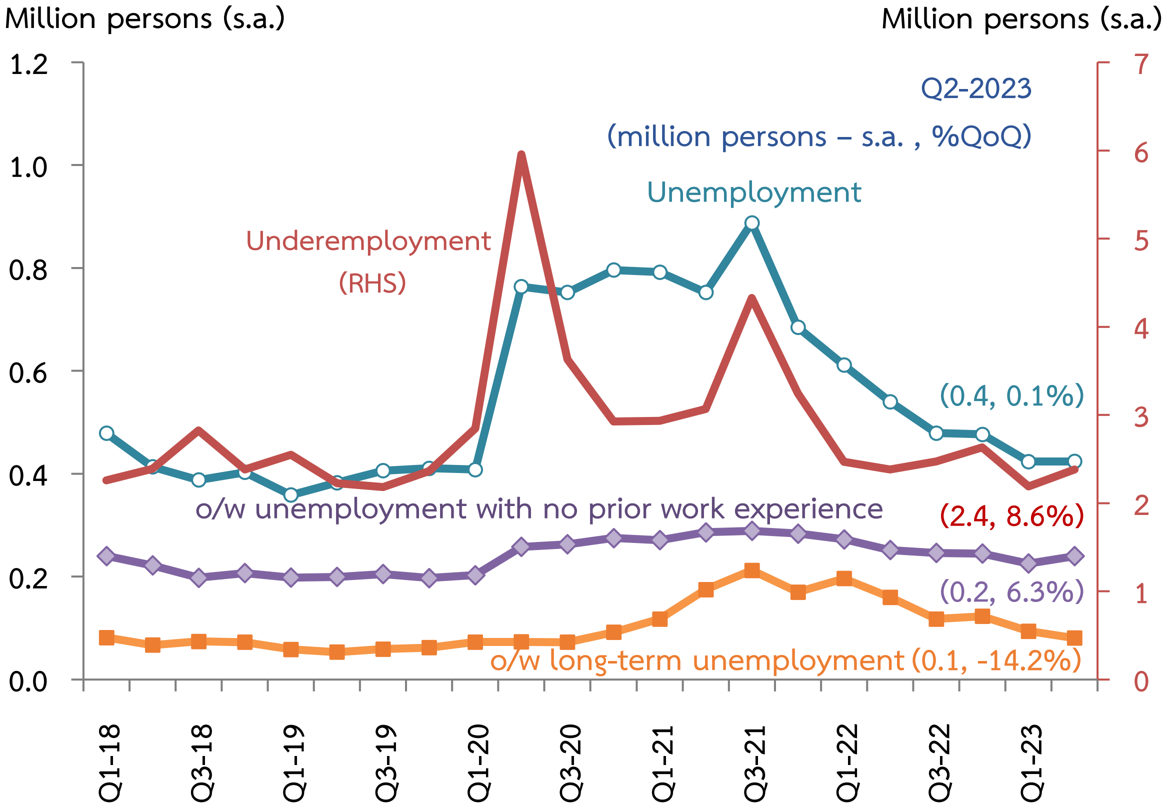
Number of workers contributing to the Social Security Fund (section 33)



Note: Section 33 refers to employees who are 15 - 60 years old when the employee starts working for a business with one or more employees. Section 33 workers can be categorized in 3 major group; manufacturing (28%) services (43%) and others (29%)

Source: Social Security Office, BOT calculation

Number of unemployment and underemployment

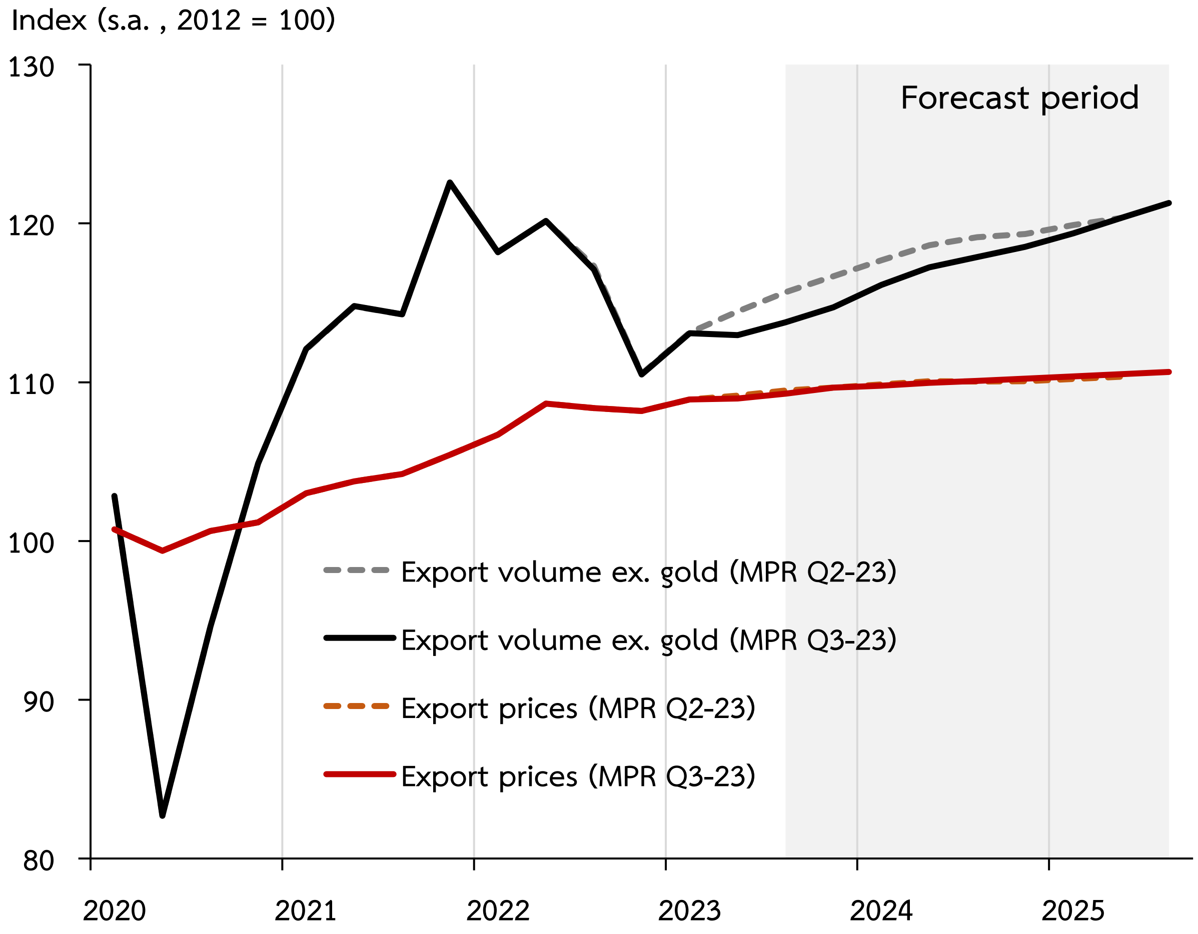


Note: Long-term unemployment is defined as being unemployed for longer than 1 year.
Underemployment is defined as those who work less than 4 hours per day.

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

Merchandise exports would recover in early 2024 driven by an upturn in the global electronics cycle and a recovery in global demand for goods.

Projected merchandise exports (ex. gold)



Merchandise exports projection

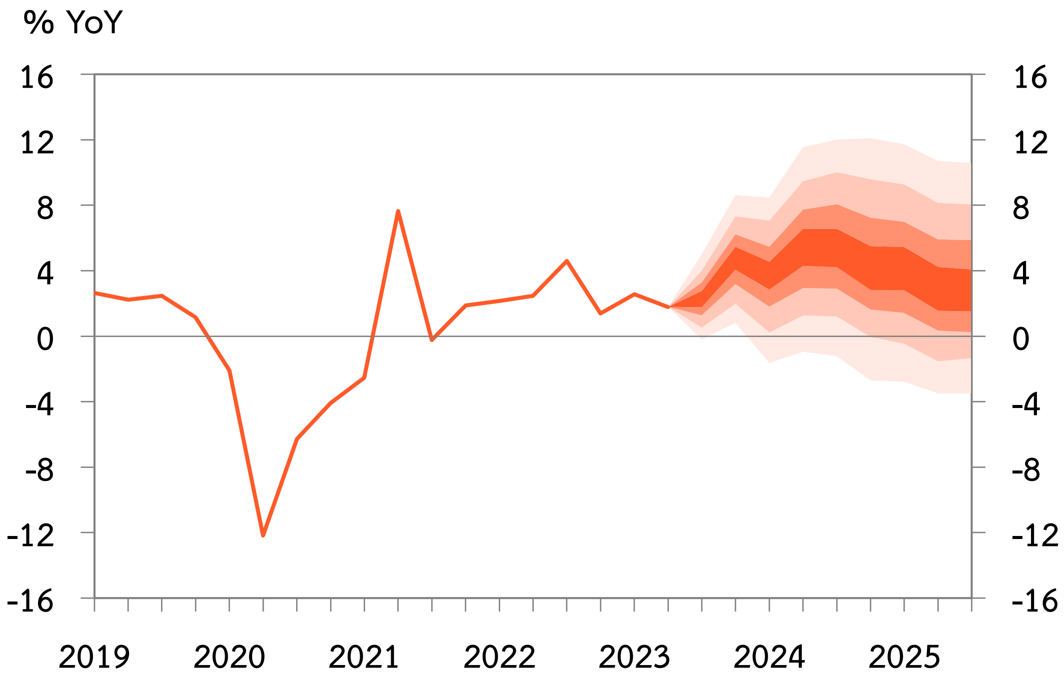
Growth (%YoY)	Export value	Export prices	Export volume
2023	**-1.7** (-0.1)	**1.0** (1.1)	**-2.7** (-1.2)
2024	**4.2** (3.6)	**0.7** (0.6)	**3.5** (3.0)

Note: ( ) denotes previous forecast from Monetary Policy Report Q2-2023

- **Merchandise exports in Q2-2023 were lower than expected** mainly due to export quantities. The slowing down exports include agricultural products, agro-manufacturing products, and air conditioners which had lower-than-expected orders from trading partners.
- **Looking ahead, exports quantities would recover on the back of (1) the upturn in the global electronics cycle** benefiting Thai exports more strongly in early 2024; and **(2) the recovery in global demand for goods** especially advanced economies' demand for industrial products.
- **Export prices remain high** in line with rising prices of petrochemical products, and of agricultural goods as a result of El Niño.
- **Export outlook is subject to downside risks** from possibility of trading partners' growth slowdown, and delays of electronics up-cycle.

The Thai economy could outperform the baseline growth projection next year due to stronger-than-expected stimulus from government policies.

GDP growth forecast



Upside risks to growth

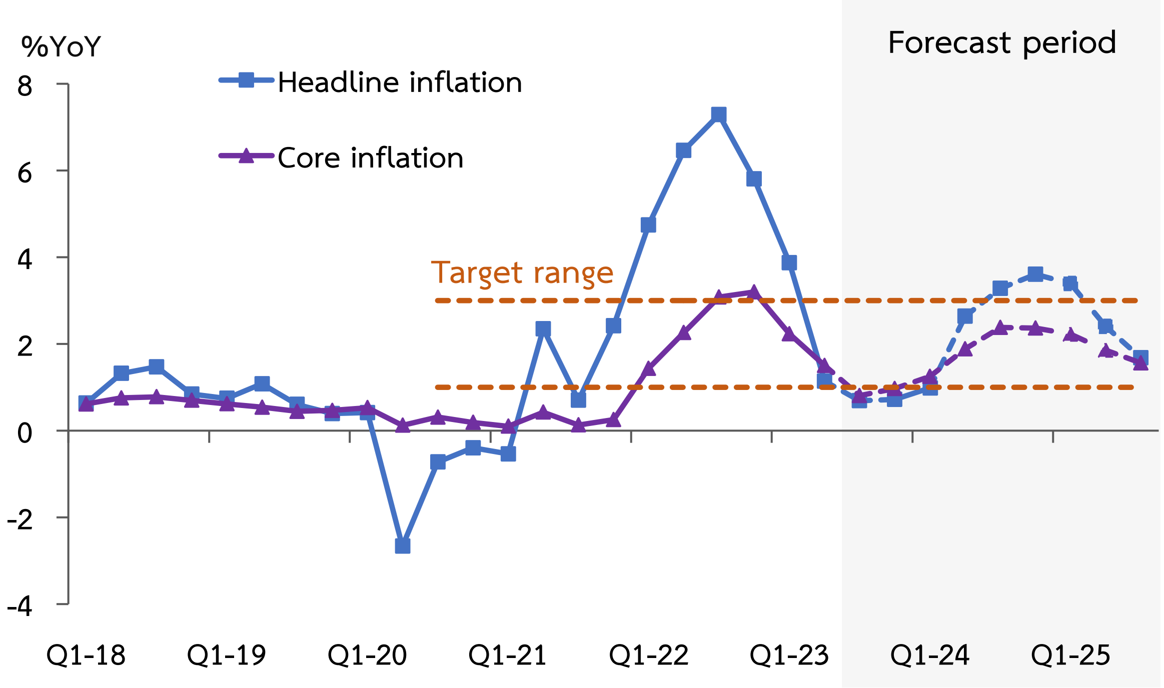
- Greater-than-expected stimulus from the government policies

Downside risks to growth

- Slower-than-expected global economic recovery, especially from problems in the Chinese real estate sector that could impact Thai merchandise exports.

Headline inflation forecast for 2023 is revised down, while the forecast for 2024 is revised up on account of El Niño and the government's economic policies.

Inflation forecast



Source: Ministry of Commerce, BOT calculation and forecast as of Sep 2023

Inflation forecast

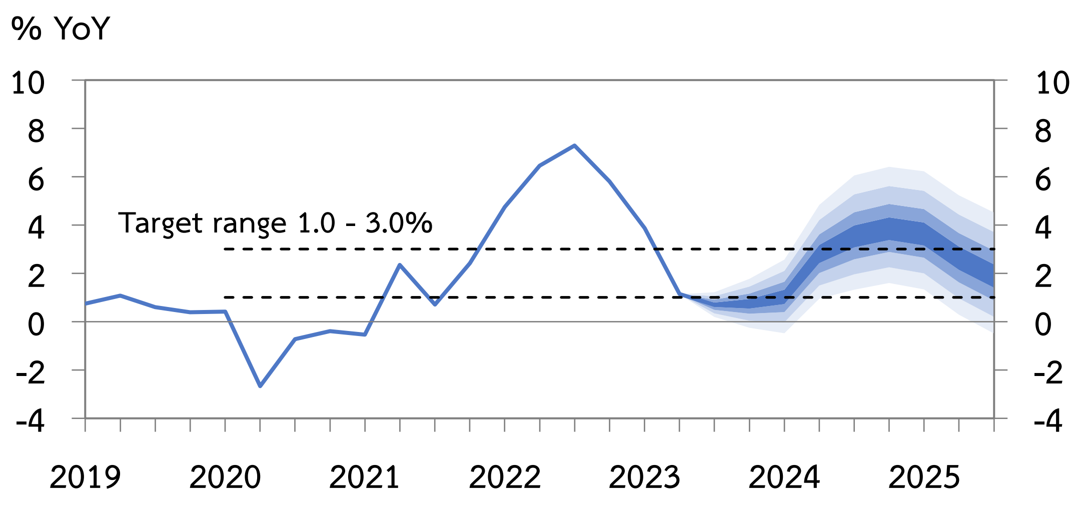
%YoY	2022	2023	2024
Headline inflation	6.1	1.6 (2.5)	2.6 (2.4)
Core inflation	2.5	1.4 (2.0)	2.0 (2.0)

Note: ( ) denotes previous forecast from Monetary Policy Report Q2-2023

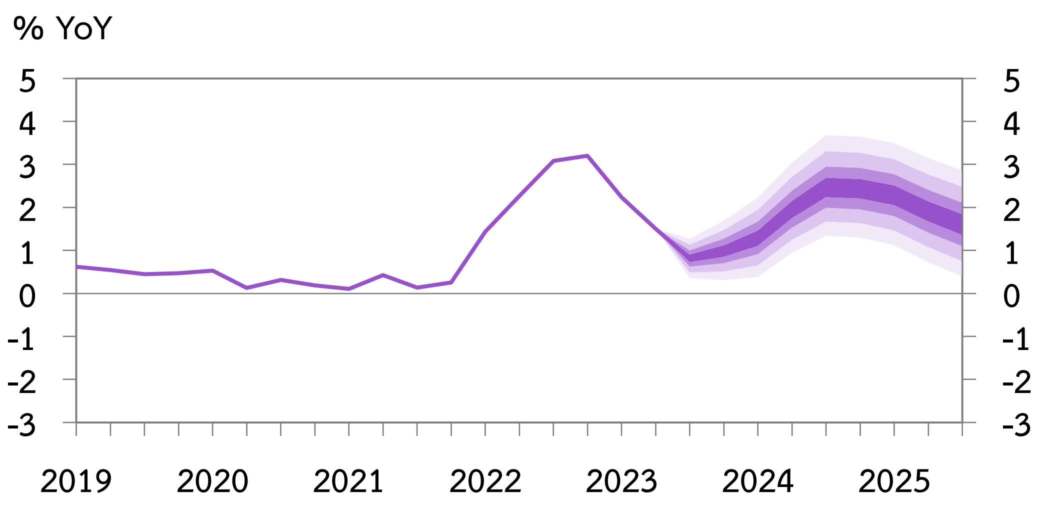
- **Headline inflation forecast for 2023 is revised down** mainly on account of lower-than-expected core inflation and energy price outturns, as well as government subsidies for electricity costs and diesel prices throughout the remainder of 2023. **Headline inflation forecast for 2024 is revised up** on account of raw food prices being affected by El Niño which is likely to be more severe, and core inflation rising due to the effects of government policies.
- **Core inflation forecast for 2023 is revised down** on account of lower-than-expected inflation outturns, especially prices of prepared food, and lower cost passthrough from businesses to consumers. Nonetheless, the government's stimulus policies could put more pressure to inflation in 2024. Thus, **core inflation forecast in 2024** is higher than this year and remains near the previous assessment.

Inflation outlook is subject to upside risks in 2024

Headline inflation forecast



Core inflation forecast



Upside risks to inflation

- **Demand-pull inflationary pressure could mount** due to the economic expansion and the government's economic policies
- **El Niño** could be more severe than expected

Downside risks to inflation

- **Slower-than-expected global economic recovery**
- **There could be more government subsidies to assist with living costs than expected** such as subsidies for electricity and retail fuel prices

Summary of key forecast assumptions

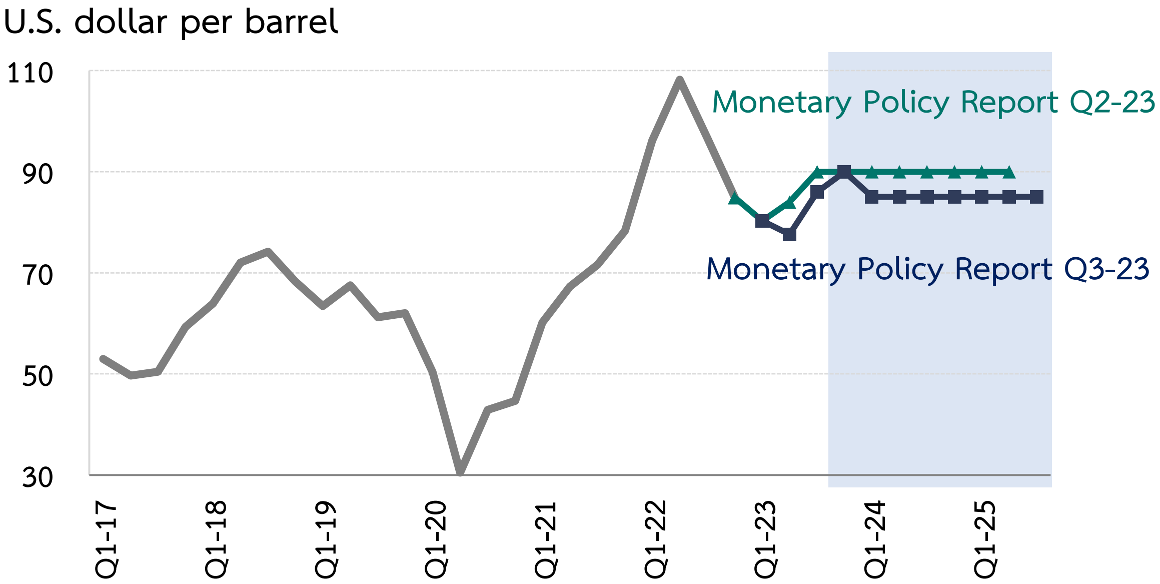
Annual percentage change	2022*	2023	2024
Trading partners' growth (% YoY)[1/]	2.9	2.7	2.5
		(2.6)	(2.7)
Fed funds rate (% at year-end)	4.25 – 4.50	5.50 – 5.75	4.75 -5.00
		(5.00 – 5.25)	(3.75 - 4.00)
Regional currencies (excl. China) vis-à-vis the U.S. dollar (index)[2/]	163.3	164.2	163.1
		(161.1)	(158.2)
Dubai cride oil prices (U.S. dollar per barrel)	96.4	83.0	85.0
		(86.0)	(90.0)
Farm income (% YoY)	13.6	-0.8	-0.6
		(-1.5)	(-1.8)
Government consumption at current price (billion baht)	3,080	3,024	3,080
		(3,019)	(3,066)
Public investment at current price (billion baht)	1,041	1,068	1,134
		(1,081)	(1,170)

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 Q2-2023

- **Trading partners' growth** for 2023 is revised up slightly on account of stronger global economic growth driven by the services sector as reflected in better-than-expected growth outturns for US and Japan. The forecast for 2024 is revised down on account of slower-than-expected recovery in both the Chinese economy and exports from Asia (ex. China).
- **The federal funds rate** in 2023 is revised up 50bps due to stronger-than-expected economic growth and slower-than-expected decline in inflation in the US. The federal funds rate in 2024 is expected to decline at a slower pace than previously expected given the strong growth outlook and persistently high inflation.
- **Regional currencies (excluding the Chinese yuan)** would depreciate throughout the forecast period on account of the slower-than-expected recovery of Asian economies.
- **Dubai crude oil prices** is revised down throughout the forecast period on account of lower price outturns due to slowdown in global oil demand.
- **Farm income (excluding government support measures)** would contract in both 2023 and 2024 due to lower output as a result of El Niño. Meanwhile, prices of agricultural products are expected to rise, especially rice due to food security concerns, which should help offset the contraction in farm income to some extent.
- **Public spending at current prices** for 2023 is revised down slightly on account of budgetary delays. The forecast for 2024 is revised up in accordance with FY2025 budget and delayed budget disbursements in 2023 being carried over.

Assumptions for Dubai crude oil prices are revised down throughout the forecast period due to lower price outturns following the global economic slowdown despite crude oil supply being depressed by OPEC+'s production cuts.

Projected Dubai crude oil prices



U.S. dollar per barrel	2022*	2023	2024
Dubai crude oil prices (annual average)	96.4	83 (86)	85 (90)

Note: * Outturn

( ) previous forecast in the Monetary Policy Report Q2/2023

Source: BOT forecast

Dubai crude oil prices assumptions are revised down from 86 to 83 US dollar per barrel in 2023 and from 90 to 85 US dollar per barrel in 2024 on account of:

- Lower-than-expected oil price outturns due to the global economic slowdown, especially China's slower-than-expected economic recovery which resulted in weaker-than-expected oil demand, despite Saudi Arabia announcing production cuts through to end-2023.

Risks to the outlook for Dubai crude oil prices are now balanced:

- Upside risks: **(1) the Russia-Ukraine conflict** could escalate, broaden, and become more prolonged than expected; **(2) severe weather conditions** due to El Niño and the US entering its hurricane season; **(3) production cuts by OPEC+** could be sharper than expected.
- Downside risks: **(1) slower-than-expected global economic recovery;** and **(2) potentially higher oil output from Iran** if the nuclear agreement with the US is reached.

Box 2: El Niño – a risk to Thai economy going forward

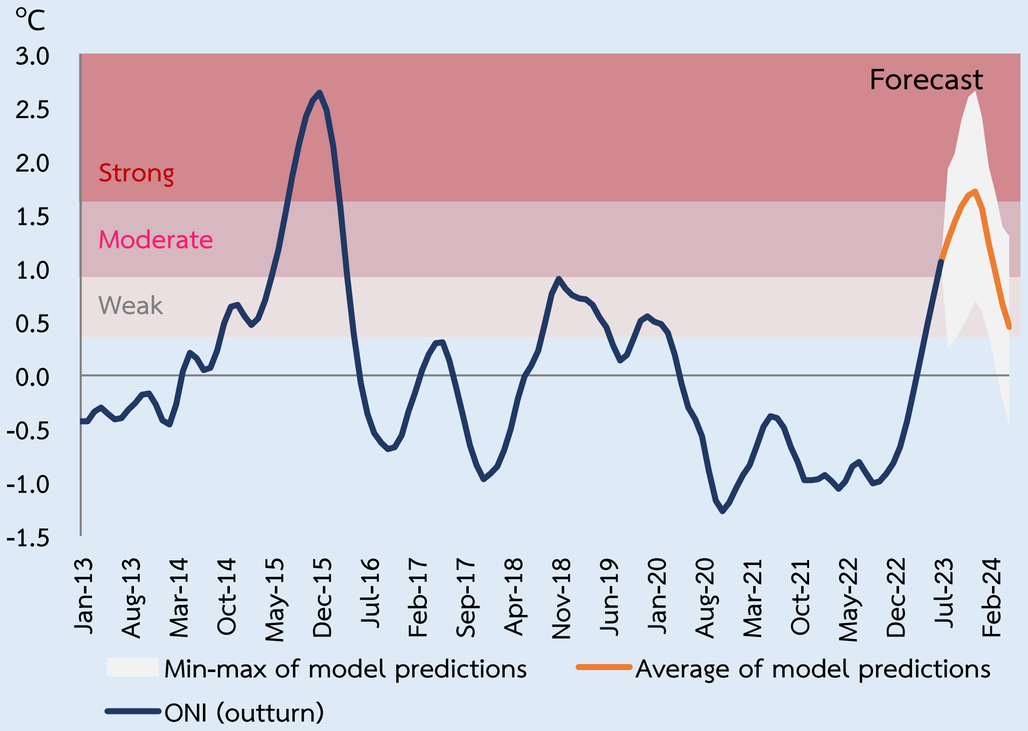
The US National Oceanic and Atmospheric Administration (NOAA) declared the arrival of El Niño[1/] in June 2023. The NOAA expects this year's El Niño to be the most severe of its kind in the past 7 years **(Chart 1)** and that weather conditions will return to normal in early 2024, at the earliest. As a result of El Niño, rainfall in Thailand between June-August 2023 has been 15% lower than historical levels, which would likely result in crop output to decline by 0.9 %YoY in the second half of 2023 and 5.4 %YoY in the first half of 2024.

Nonetheless, the impact of El Niño differs across various agricultural products. In terms of output, field crops would be more affected than perennial plants because field crops have less drought-tolerance. In addition, crops that rely on water from dams for irrigation are more affected than those that rely on rain in rainy season. The different global market structures and idiosyncratic factors across different crops also mean that price sensitivity to supply shocks can vary. The net impacts of El Niño on farm income going forward are as follows **(Chart 2):**

1. Income of in-season rice farmers who grow rice during the rainy season (about 64% of all farmers) would increase despite a slowdown in crop output during the harvest period in Q4/2023. This is because global rice prices would increase due to rice exports ban by India – one of the world's largest rice exporters – and a risk of limitation

[1/] El Niño is a phenomenon that occurs on the western Pacific Ocean that causes drought in regions/countries such as Southeast Asia, Australia, India, Central America, West and South Africa, while causing heavy rainfall elsewhere such as South America, Central Asia, East Africa, and southern US states.

Chart 1: Oceanic Niño Index (ONI) and forecast



Note: ONI tracks difference between sea surface temperature in the east-central tropical Pacific and the long term average

Source: International Research Institute for Climate and Society (IRI)

Box 2: El Niño – a risk to Thai economy going forward

on Vietnam rice export. These two factors would result in rice prices continuing to increase through to end-2024, when global rice output might have returned to normal.

2. Income of sugarcane, rubber, cassava, and durian farmers (21% of all farmers) would remain largely unaffected. **(1) Sugarcane:** crop output and price would be stable in H2/2023, but sugarcane farmers' income would decline in H1/2024 due to lower crop output in Thailand as well as lower global sugarcane prices given increased sugarcane production in Brazil, the world's top exporter of sugarcane who would benefit from El Niño; **(2) Cassava:** the impact of lower crop output would be offset by higher prices, but cassava prices would remain low overall due to lower quality; **(3) Rubber and durian:** both rubber and durian are perennial plants and thus their crop output in H2/2023 would largely be unaffected and prices are likely to be largely unchanged from the previous year. In H1/2024, it is expected that the income of rubber farmers would gradually recover as prices increase with growing rubber demand from China to replenish their rubber inventory, as well as strong output growth due to a low base in 2023. Meanwhile, income of durian farmers would likely decline slightly due to a contraction in crop output and prices being depressed by increased competition.

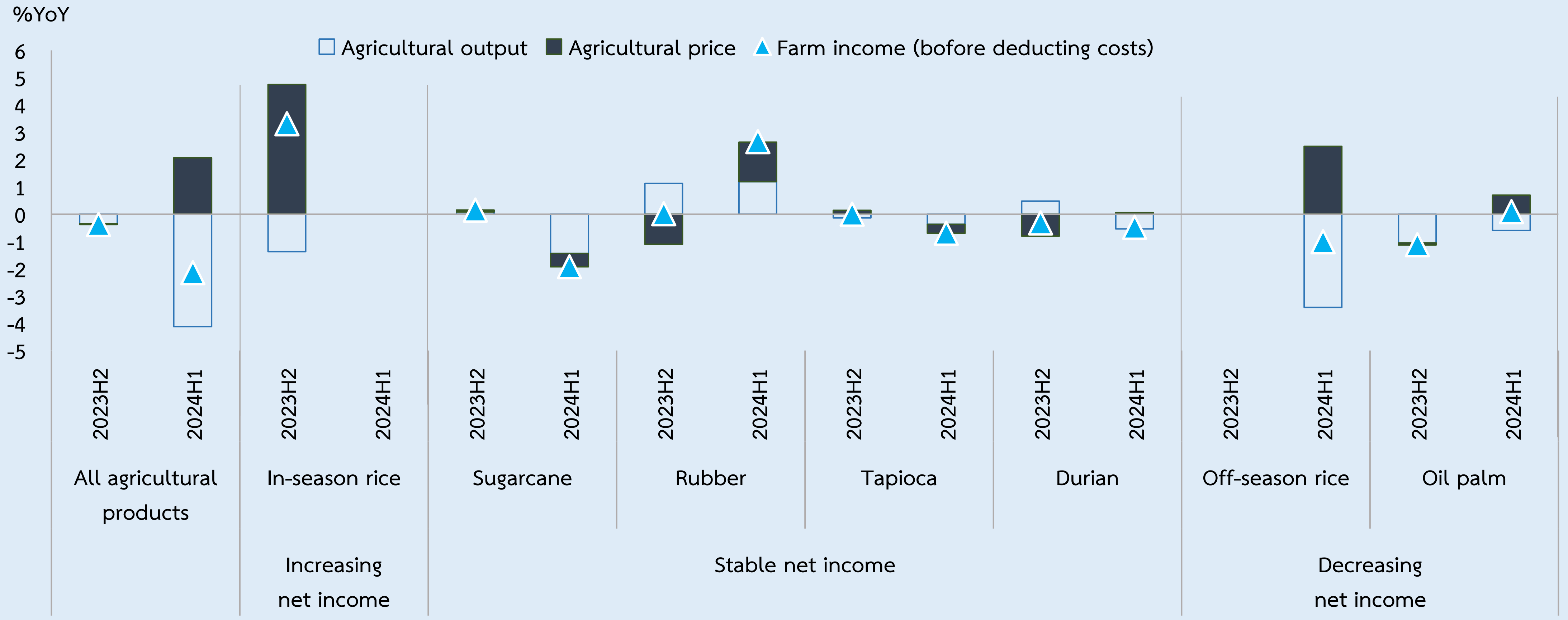
3. Income of off-season rice farmers who grow rice during the drought season and oil palm farmers (14% of all farmers) would contract. **For off-season rice,** lower water levels in dams would result in less irrigation for off-season rice farming. This would lead to a sharp contraction in off-season rice output that cannot be offset by higher prices. **For oil palm,** crop output in H2/2023 would contract due to a high base in 2022 when weather conditions were more conducive. Meanwhile, oil palm prices have started to stabilize from the levels seen during the onset of the Russia-Ukraine conflict. However, income of oil palm farmers in H1/2024 would be largely stable due to higher price and contraction in global oil palm output.

On the whole, El Niño would result in overall farm income (after taking into account price movements of different crops) contracting 0.4 %YoY in H2/2023 and 2.1 %YoY in H1/2024. This is primarily due to lower crop output both from Thai farmers and globally. Meanwhile, certain exporters would seize their exports of those crops for food security purposes, resulting in higher prices of some crops which would help offset some of the income losses for Thai farmers. The overall impact on Thailand's economic growth is about 0.1 percentage point in 2023 and 0.2 percentage point in 2024 (vis-à-vis a scenario without El Niño) mainly due to lower crop output, especially rice and sugarcane, as well as agro-manufacturing products. The effects of El Niño would also result in higher headline inflation by about 0.2 percentage point in 2023 and 0.4 percentage point in 2024 (vis-à-vis a scenario without El Niño) mainly due to higher food prices. Meanwhile, there remains the risk that El Niño would result in higher inflation than assessed.

Box 2: El Niño – a risk to Thai economy going forward

Chart 2: Farm income forecast by source of growth

(before deducting costs and not including government support measures)



Note: Thai farmers perform a total 1.4 agricultural activities (types of crop/animal) per household on average

Source: Office of Agricultural Economics, BOT forecast

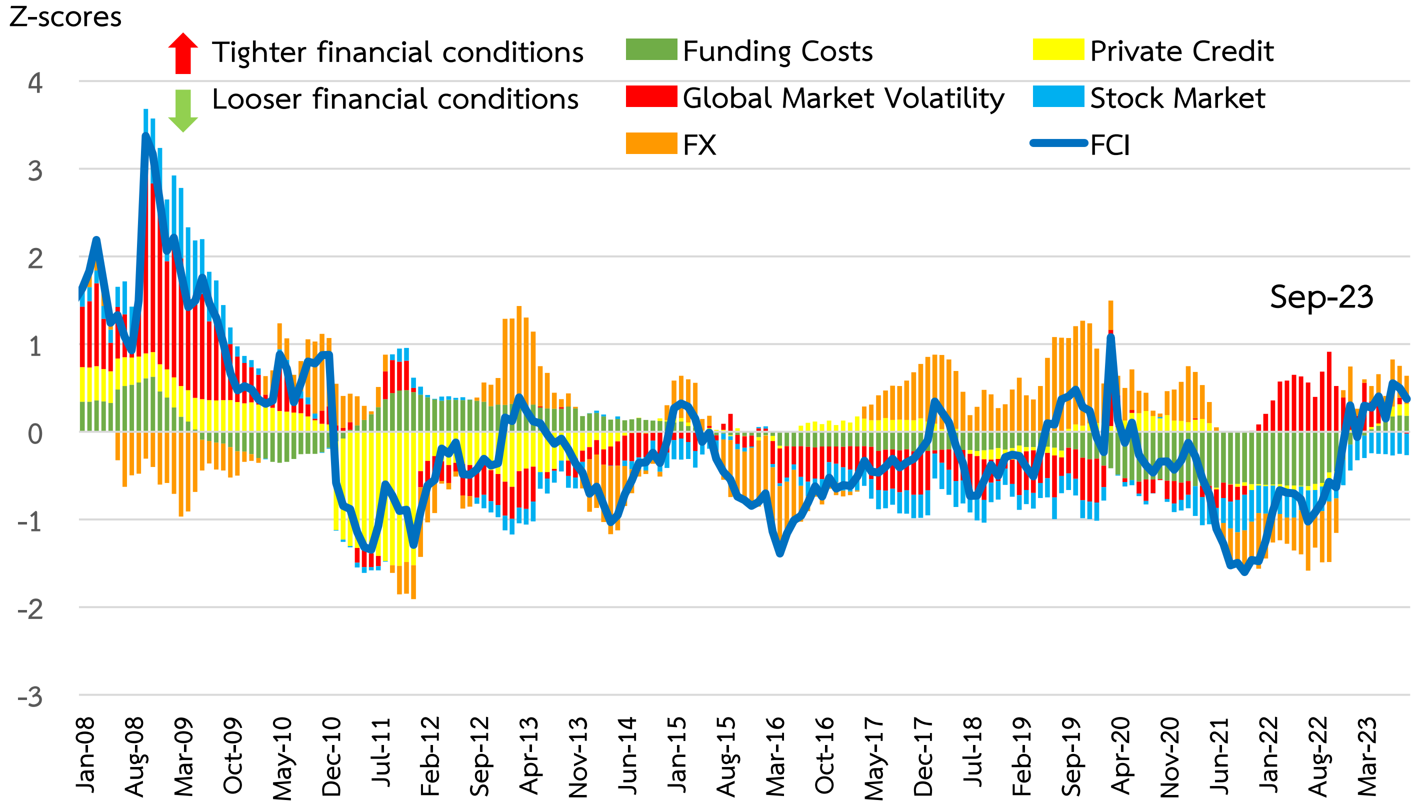
Financial conditions: Key Issues

Overall financial conditions tightened somewhat. Private sector funding costs increased consistent with the policy rate, while the baht depreciation helped to slow the financial conditions tightening.

The slowing private credit growth partly reflected a normalization of lending activity after the crisis-era expansion and should improve as the recovery gathers momentum. However, private sectors are still able to mobilize funds continuously.

The baht depreciated due to both external and Thailand-specific factors

Overall financial conditions tightened somewhat. Private sector funding costs increased consistent with the policy rate, while the baht depreciation partly helped to slow the financial conditions tightening.



Note: Average of data points up until 26 Sep 2023

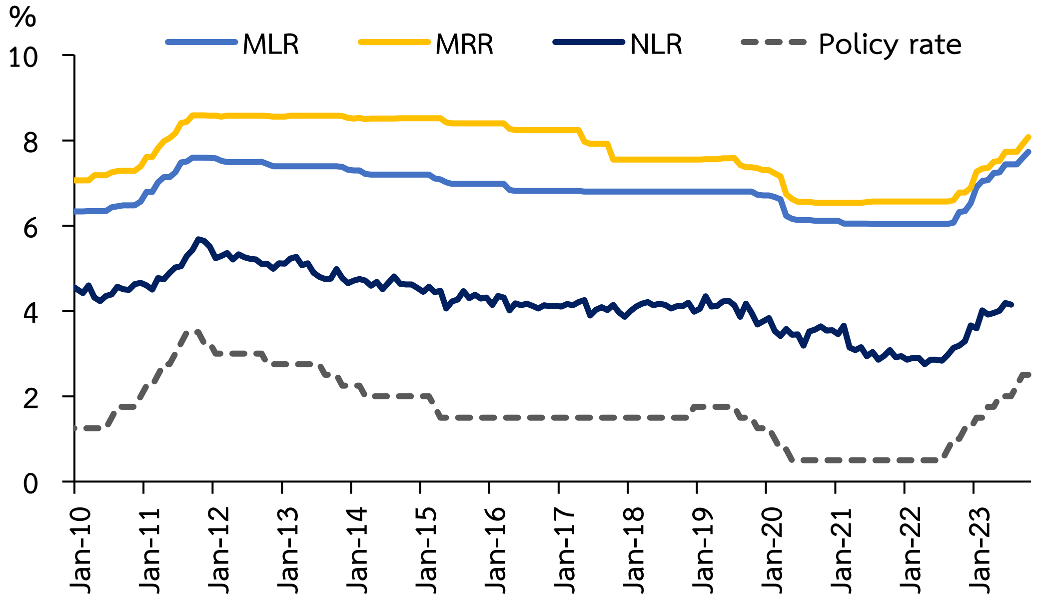
Source: Calculated by BOT

Financial conditions tightened somewhat from the previous quarter:

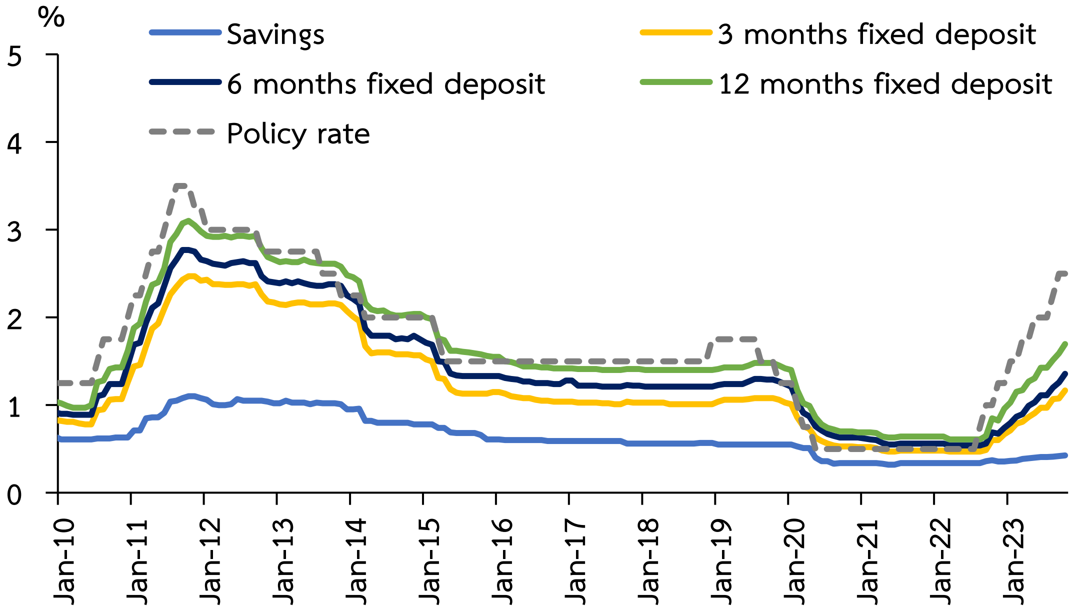
- **Funding costs increased slightly consistent with the policy rate. Private credit growth has slowed down** partly due to a normalization after having accelerated from financial measures implemented during the COVID-19 pandemic.
- **Exchange rate (FX)** depreciated 2% from the previous quarter due to (1) an appreciation of the US dollar index after the Fed signaled that it would maintain high policy rate for longer; (2) a depreciation of the Chinese yuan due to concerns over China's economic recovery; and (3) Thailand's lower-than-expected GDP and current account balance outturns.

Commercial bank's lending rates increased in line with the policy rate. While deposit rates increased slowly compared to increases in the past.

Commercial bank lending rates



Commercial bank deposit rates



Note: (1) Monthly average of 13 commercial banks (data as of 6 Oct 2023)

(2) From 1 Sep 2023 onwards, Thai Credit Retail Bank Public Company Limited will be included as part of commercial banks under the name Thai Credit Bank Public Company Limited.

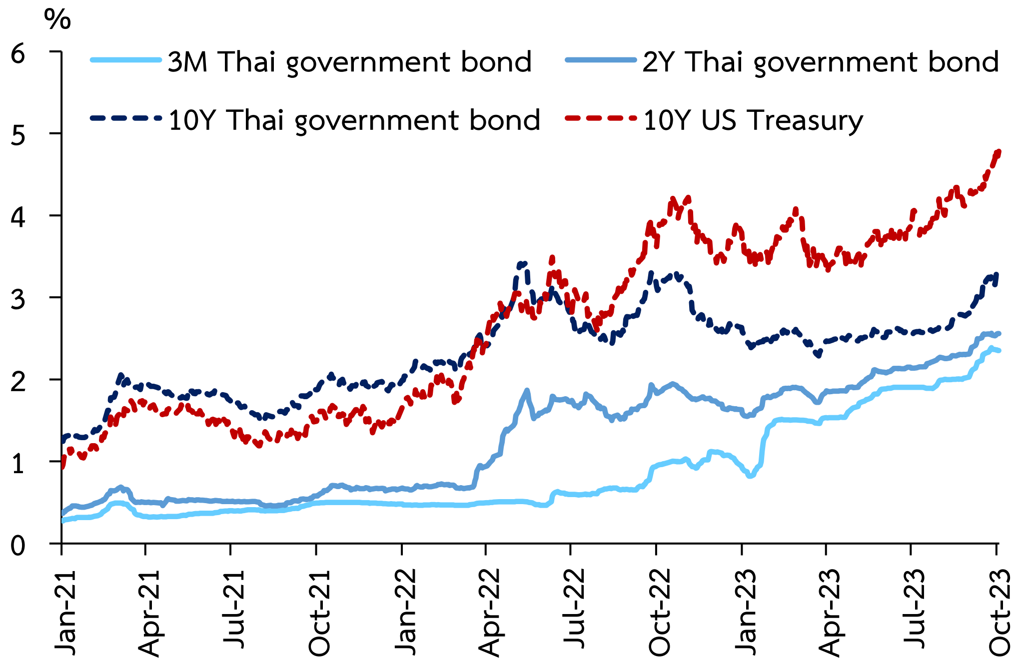
(3) NLR = new loan rate (data as of July 2023)

Source: BOT

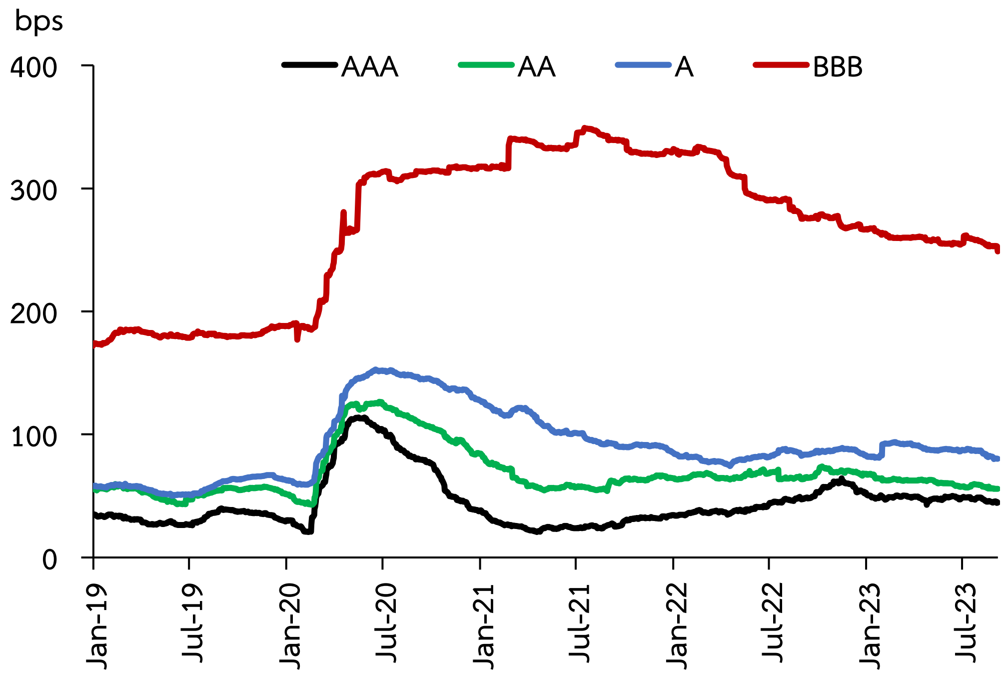
Benchmark lending rates increased. Commercial banks gradually raised their lending rates after the MPC raised the policy rate to 2.50% at the MPC meeting on 27 September 2023. The transmission from policy rate to lending rates during this normalization cycle is close to levels seen in the past at 60%. Commercial banks passed on the higher financing costs to the minimum retail rate (MRR) to a lesser degree compared to the minimum loan rate (MLR) to soften the impact on vulnerable borrowers, most of whom are subject to the MRR. **The average deposit rates increased slightly.** Commercial banks passed on the higher financing costs mostly to long-term fixed deposits in order to manage costs. The transmission from policy rate to both the savings and fixed deposit rates is weaker than in the past because commercial banks have abundant liquidity as reflected in the loan-to-deposit (L/D) ratio of 92.3%, which is lower than past average.

Financing costs in the bond market have increased in line with US Treasury yields. The increase was also due to domestic factors.

Thai government bond and US Treasury yields



Corporate and government bond credit spread, by credit rating

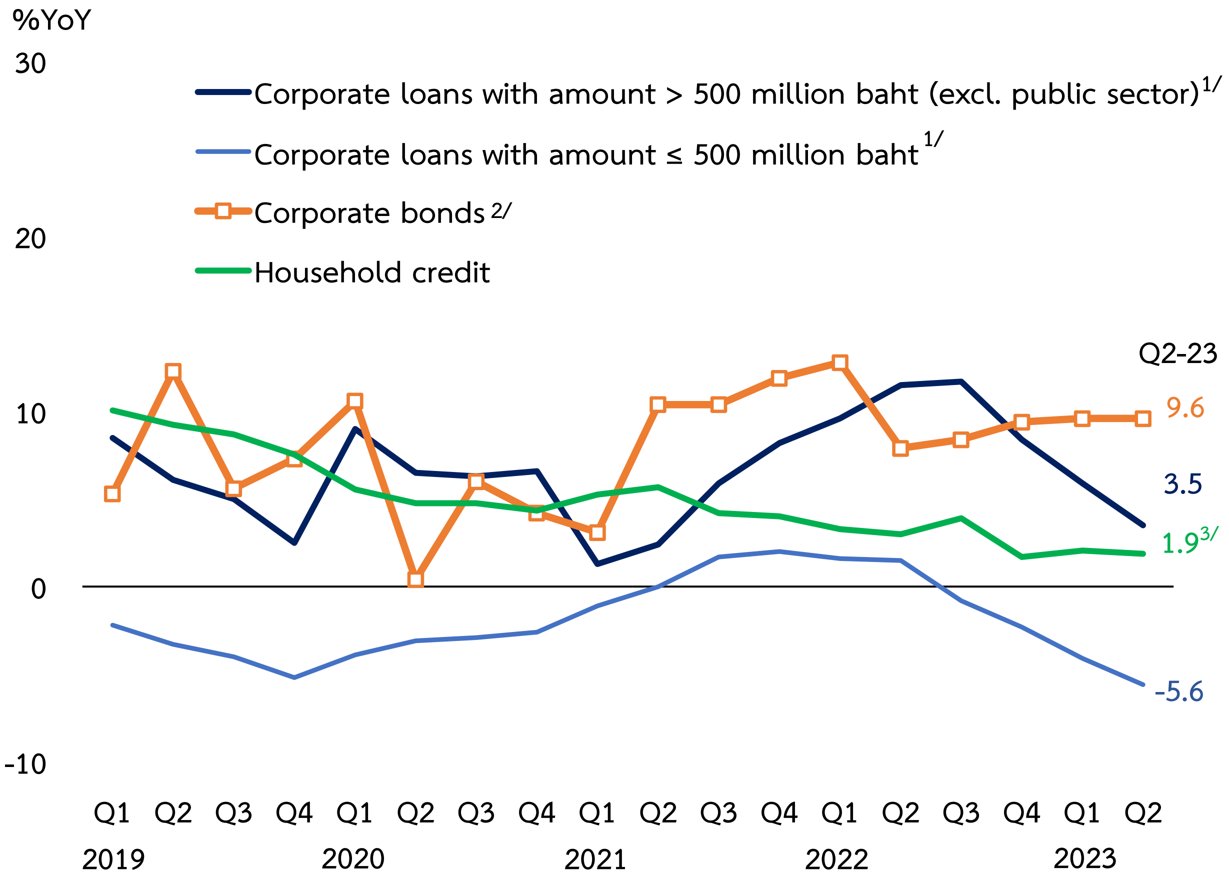


Source: Thai BMA (as of 6 Oct 2023)

Short-term government bond yields increased in line with the policy rate. Meanwhile, **long-term government bond yields increased** in line with movements in US Treasury yields, which was driven by expectations about the Fed's monetary policy direction where the high policy rate might be maintained for a longer period. The increase was also due to concerns that Thai government bond issuance would pick up in the period ahead to finance the government's stimulus policies. **Credit spreads remain stable** from the previous quarter, with limited impact from recent defaults on some corporate bonds.

Private credit in Q2/2023 slowed down overall.

Private credit



Note: [1/] Credit line at each commercial bank

[2/] The data statistics impvoving more details

[3/] Household credit would have grown at 4.1% if the credit card and personal loan portfolio of one bank had not transferred to its subsidiary (excluded from private credit calculation)

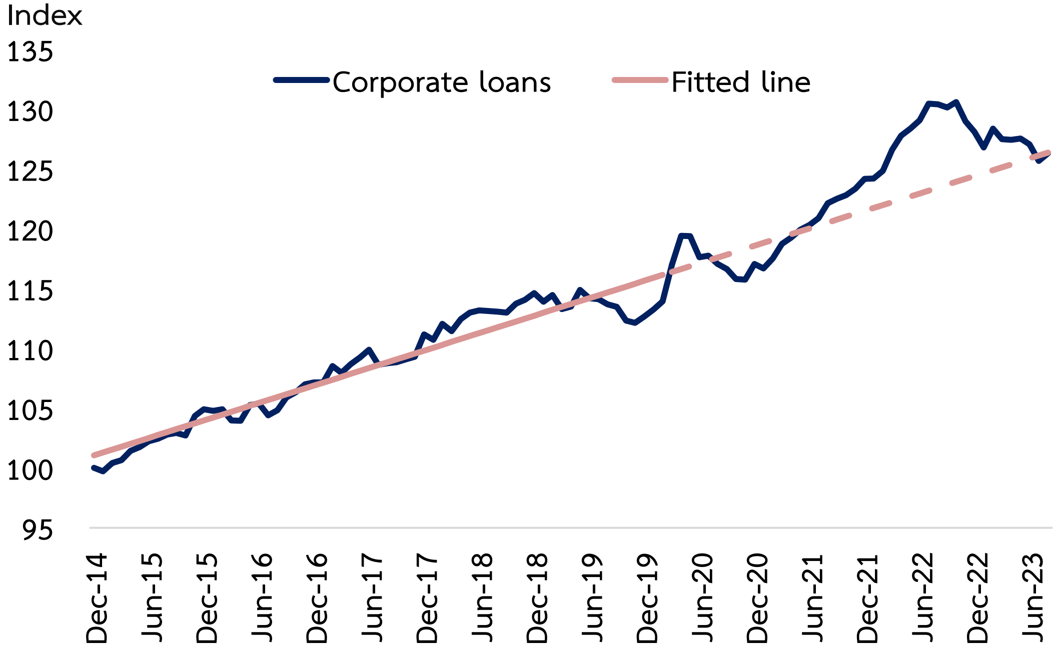
In Q2-2023, large corporate loan growth (credit limit > 500 million baht) slowed down due to debt repayments primarily. Loans extended to export-related manufacturing businesses have continued to contract in line with the slowdown in exports. **Some large corporates have continued to shift to issuing bonds**, especially in the utility, energy, and other services sectors.

SMEs loan growth (credit limit ≤ 500 million baht) contracted from the same period last year. This was due to repayment on maturing soft loans as well as more cautious lending on the part of the banks.

Household credit growth overall slightly slowed down especially personal loans and credit card loans. Mortgage loan growth was largely stable from the previous quarter. Auto loan growth increased slightly from the previous quarter but remained low due to more cautious lending behavior given increased credit risks of borrowers and risks about collateral value.

Business loan growth has slowed down and is normalizing after having accelerated by financial measures implemented during the COVID-19 pandemic. Most businesses are still able to obtain credit lines that are comparable to what they received pre-COVID.

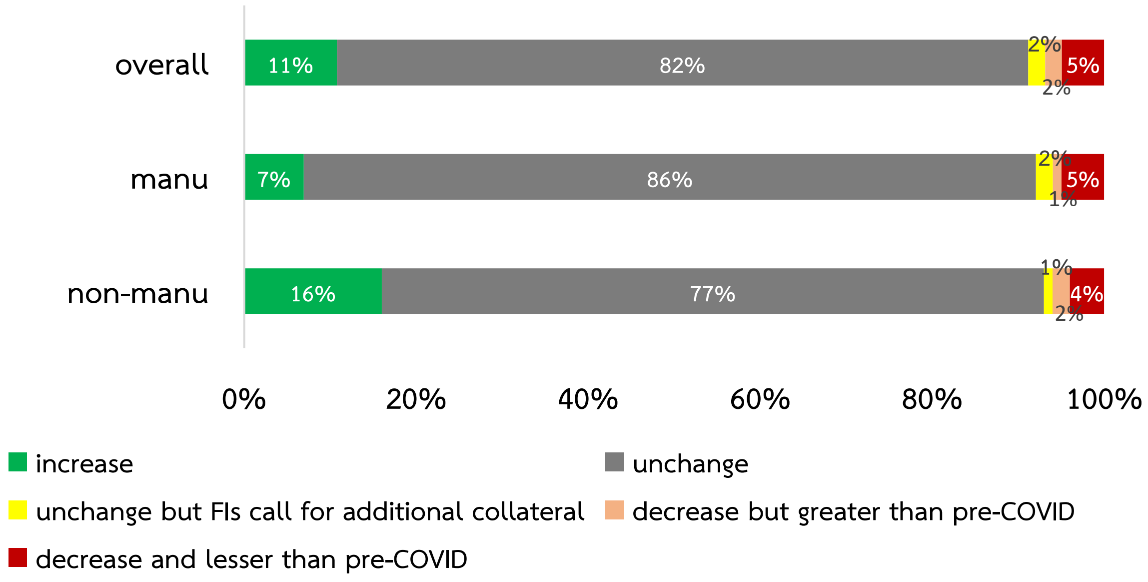
Corporate loans



Note: (1) data up until August 2023; (2) Corporate loan calculated as Index from Dec 2014 = 100
(3) fitted line calculated from pre-COVID data

Business loan growth has slowed down partly due to a normalization to its trend after having accelerated by financial measures implemented during the COVID-19 pandemic. It is expected that credit demand will recover in tandem with economic activities.

Changes in the credit limit received from financial institutions in the past 3 months.

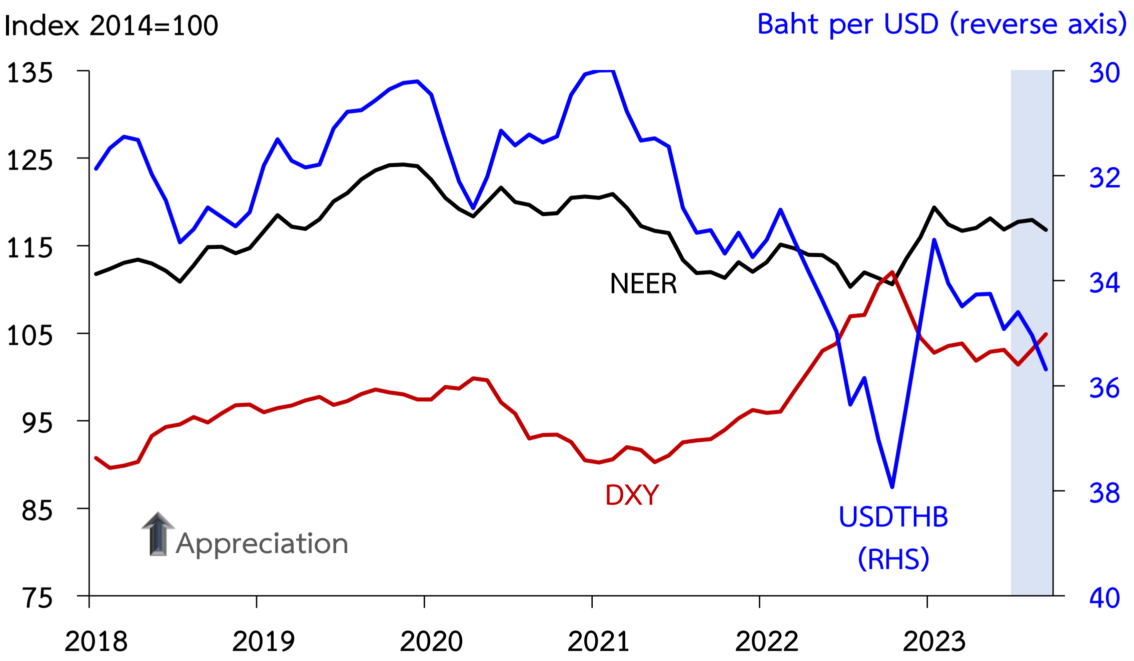


Source: Survey of 195 entrepreneurs on special issues by BOT, September 2023.

Over the past 3 months, more than 80% of businesses are still able to obtain credit lines that are comparable to what they received pre-COVID. Some businesses received higher credit lines such as chemical manufacturing, retail sales, and financial services. Only a handful of businesses received lower credit lines such as textiles and garments, other services, and plastic and glass manufacturing. Survey results found that businesses utilize bank credit lines less because they have sufficient working capital as well as access to alternative financing sources.

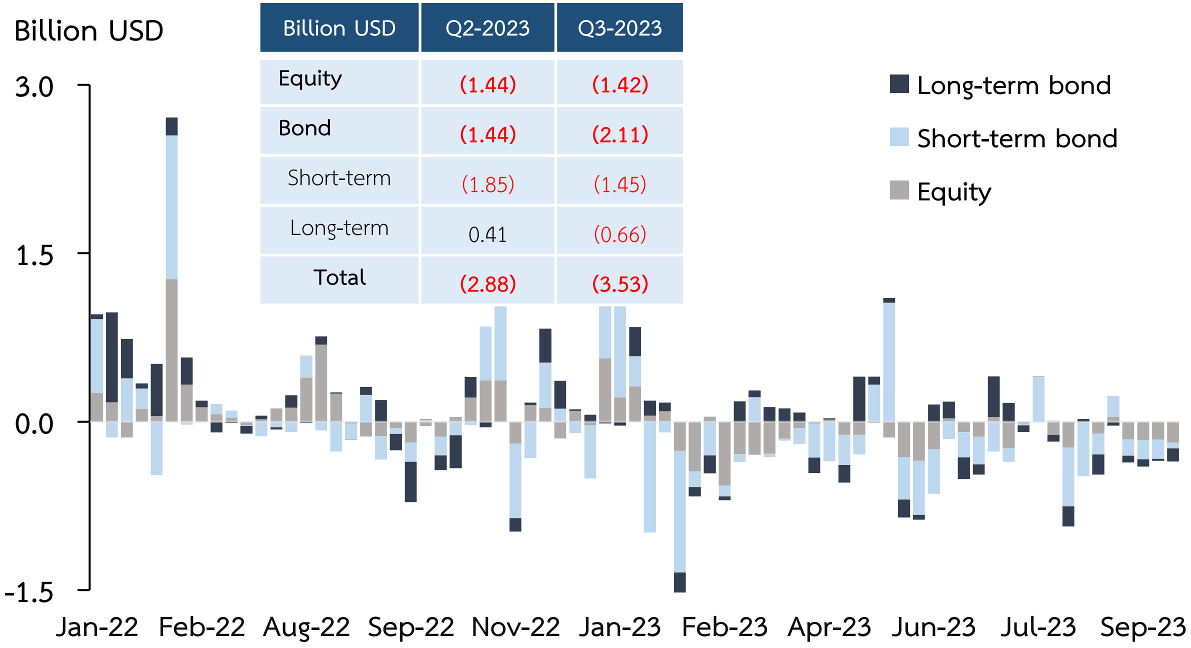
The baht on average depreciated from the previous quarter due to both external and Thailand-specific factors.

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



Note: Average monthly as of 26 Sep 2023
Source: BOT and Bloomberg

Capital flows into Thai securities



Billion USD	Q2-2023	Q3-2023
Equity	(1.44)	(1.42)
Bond	(1.44)	(2.11)
Short-term	(1.85)	(1.45)
Long-term	0.41	(0.66)
Total	(2.88)	(3.53)

Note: Weekly data, cumulative from the first trading day (as of 26 Sep 2023)
Source: ThaiBMA and Bloomberg

In Q3-2023, the baht averaged 35.11 per U.S. dollar, depreciating from the average value of 34.48 per U.S. dollar in the previous quarter. The baht's movement was driven by market expectations about the Fed's monetary policy, the Chinese yuan's depreciation, Thailand's lower-than-expected economic outturns, net capital outflows in Q3-2023 from both bonds and equities, and investors waiting for clarity on government policies that may have implications for the economy and fiscal sustainability in the future. **The nominal effective exchange rate (NEER) averaged 119.98, largely unchanged from the previous quarter**. This is because the baht's movement was in tandem with trading partners' and competitors' currencies.

Monetary Policy Decision: Summary of Key Considerations

Economic growth

The Thai economy overall continued to recover. Growth should pick up in 2024, supported by both domestic and global demand.

Inflation

Headline inflation would be within the target range but the outlook for 2024 is subject to upside risks from government policies and El Niño.

Financial stability

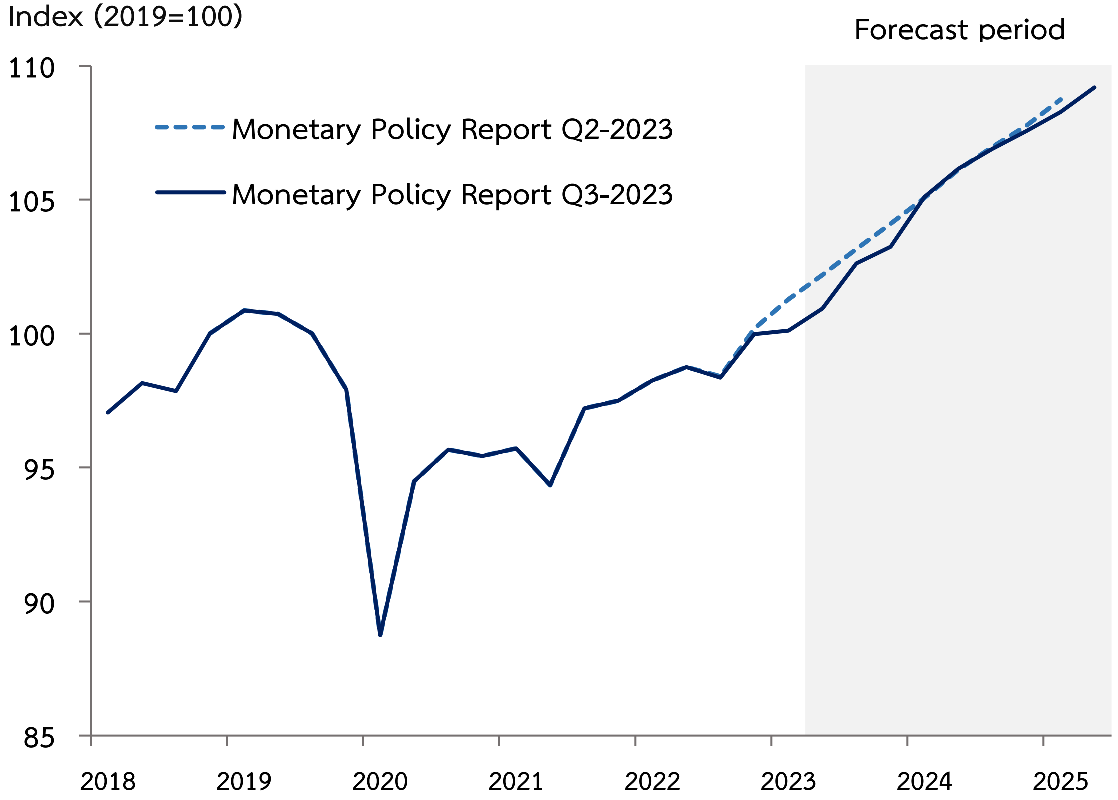
Overall financial system remains resilient but there is a need to continue monitoring credit quality stemming from financial status of the vulnerable groups.

Monetary Policy Decision

The MPC deems the current policy interest rate to be appropriate for supporting long-term sustainable growth.

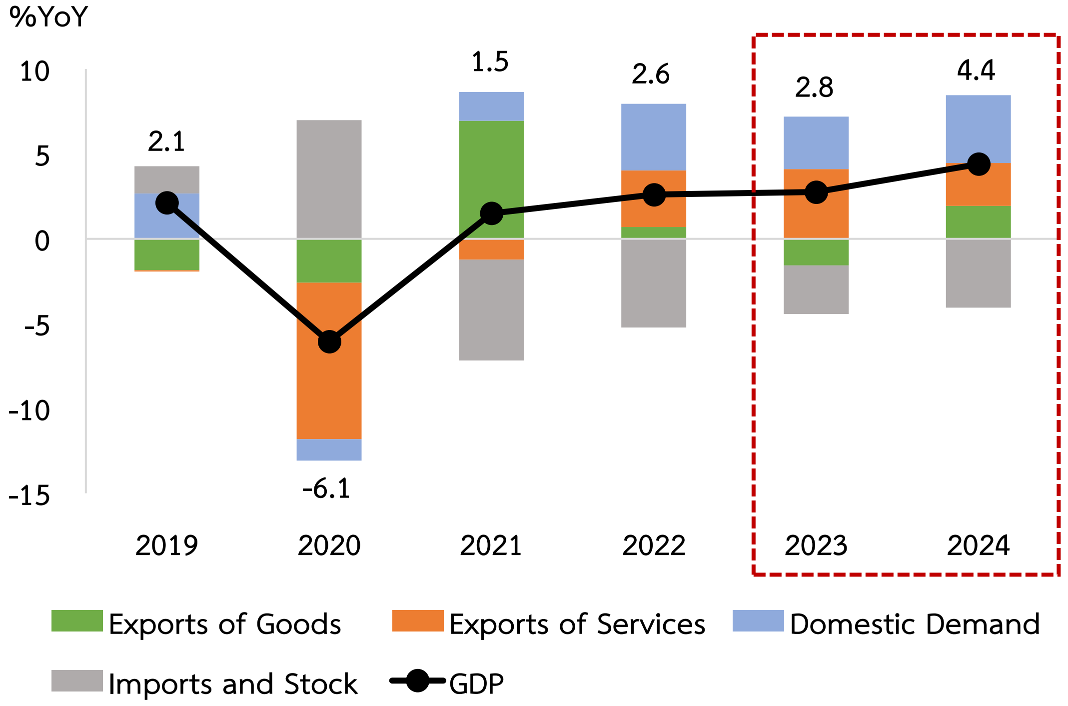
The Thai economy overall continued to recover, albeit at a slower pace this year. Growth is expected to pick up in 2024, supported by both domestic and global demand.

Real GDP index



Source: BOT forecast as of Sep 2023

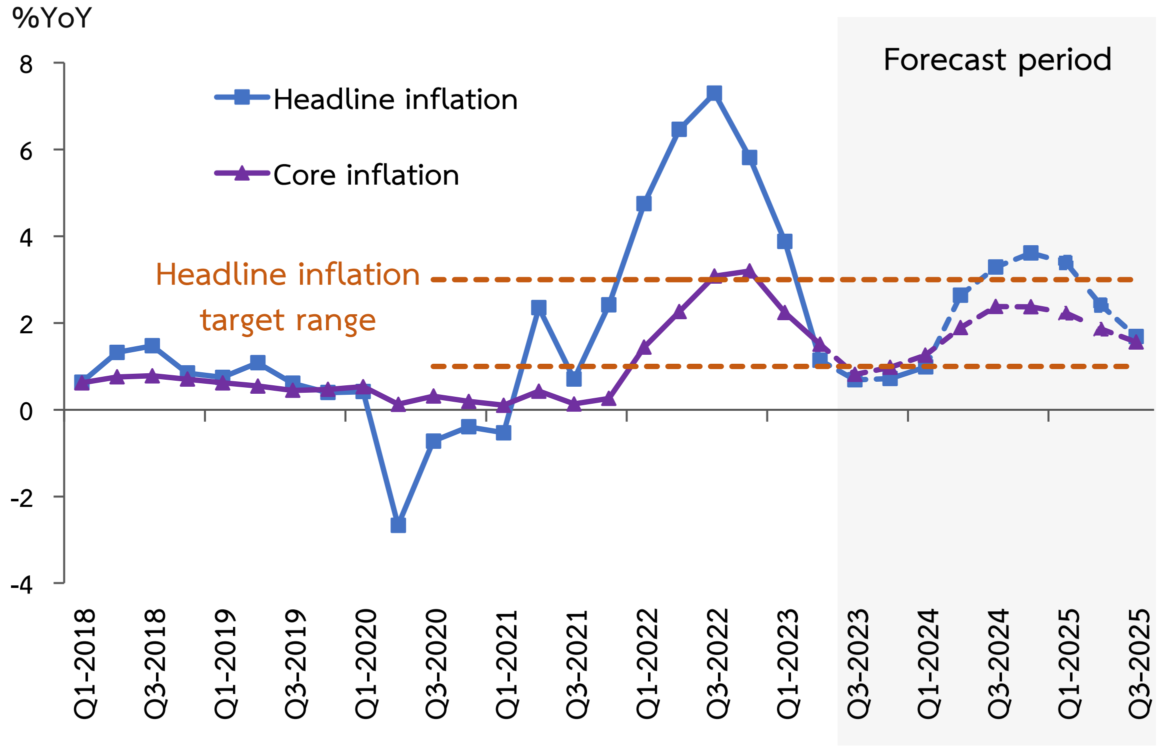
Contribution to GDP growth



The Thai economy in 2024 is projected to expand higher than this year, supported by a steady tourism recovery and a turnaround in merchandise exports, with additional support from government policies.

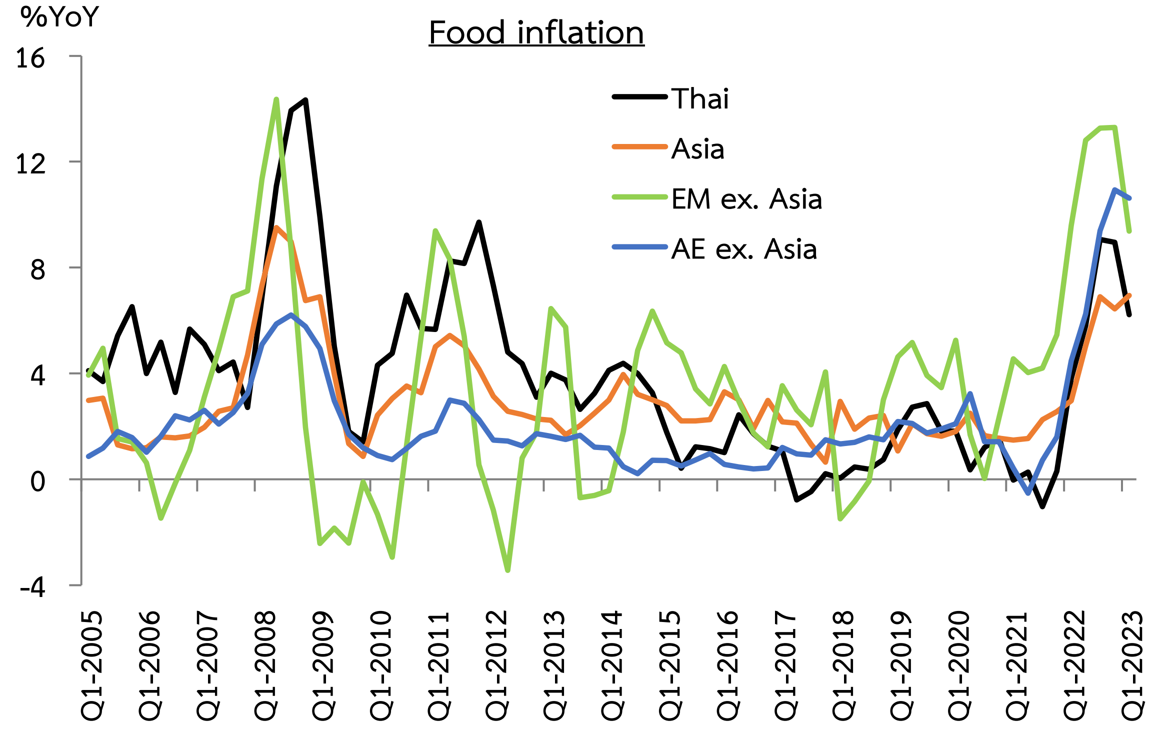
Headline inflation is expected to be within the target range, while core inflation will remain relatively high compared to past levels. The inflation outlook for 2024 is subject to upside risks from increased demand as a result of government policies, and potentially higher food prices due to El Niño.

Inflation forecast



Source: Ministry of Commerce, calculations and forecast by BOT (as of Sep 2023)

Global food prices tend to remain at high levels and there are upside risks due to El Niño



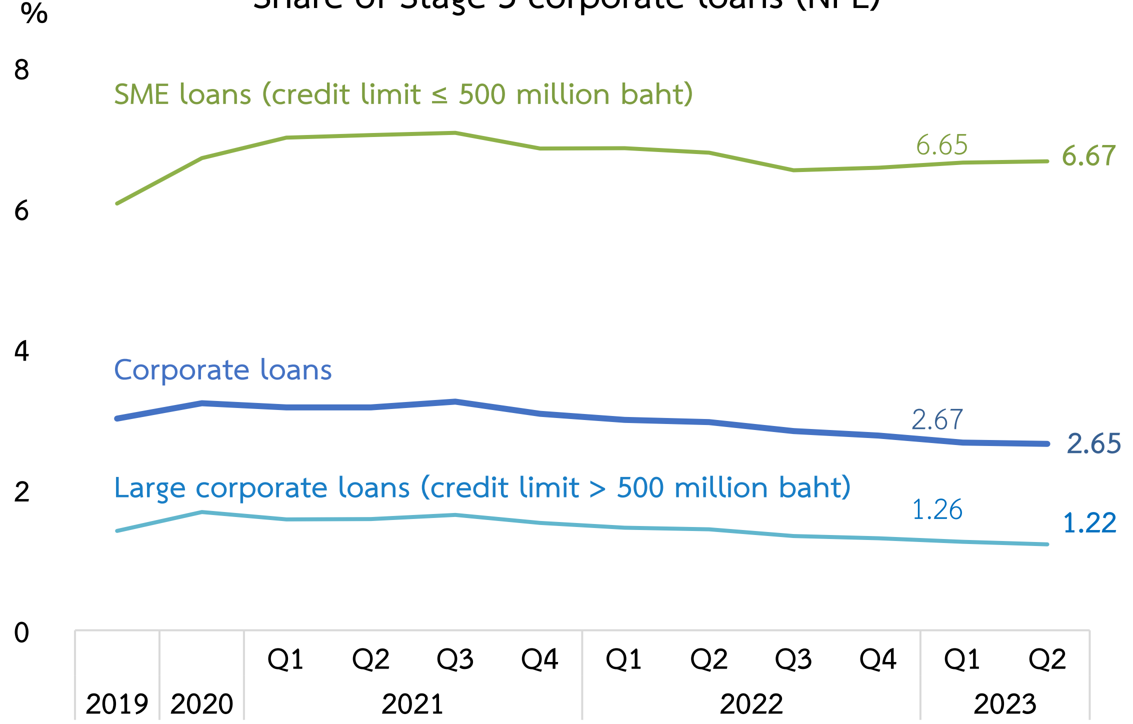
Note: Asia includes CN, JP, TW, SG, KR, PH, ID and MY
EM ex. Asia includes MX, RU, BR, BG and PL
AE ex. Asia includes US, GB, CA, AU, NZ, FR, SE, CH, NL, IE, NO, and IL

Source: CEIC, calculations by BOT

Financial stability remains sound overall but there is a need to monitor debt serviceability of some vulnerable SMEs and households facing high debt burdens and slow income recovery.

NPL ratio of large corporate loan slightly decreased, resulting from loan portfolio management and debt restructuring

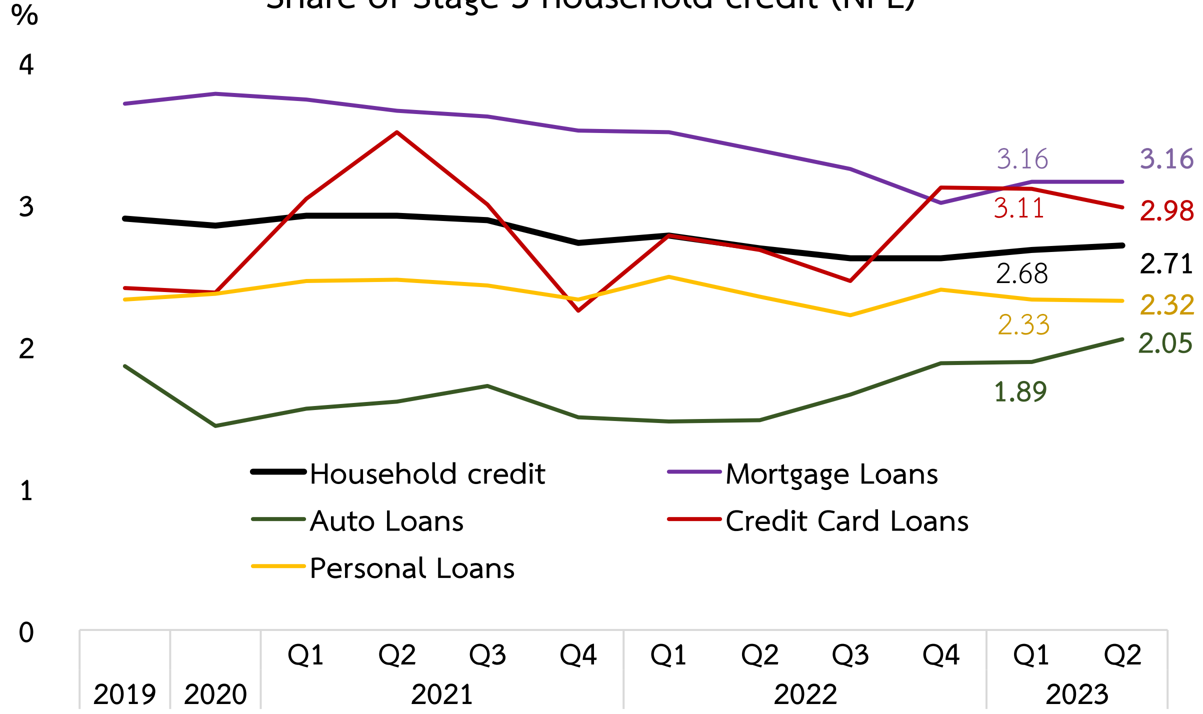
Share of Stage 3 corporate loans (NPL)



Note: *Businesses that have credit lines with each commercial bank
Source: BOT

NPL ratio of household credit have increased somewhat from auto loans.

Share of Stage 3 household credit (NPL)



Note: Since Q4-2022, there has been a transfer of the credit card and personal loans to a subsidiary company of a commercial bank.
Source: Bank of Thailand

The gradual policy normalization has brought the current policy rate to a level that is consistent with long-term sustainable growth.

MPC Meeting
No. 4/2023
(2 Aug 2023)

MPC voted unanimously to raise the policy rate by 0.25 percentage point

MPC Meeting
No. 5/2023
(27 Sep 2023)

MPC voted unanimously to raise the policy rate by 0.25 percentage point

Current policy rate:

2.50%

The Thai economy overall continued to recover, albeit at a slower pace due to softer global demand. That said, growth should pick up in 2024, supported by both domestic and global demand. Inflation is projected to be within the target range and would average higher in 2024 due to the economic recovery and El Nino-related supply pressure. The Committee will continue to monitor additional impetus to growth and inflation from government policies.

The appropriate policy rate level would help keep inflation sustainably within the target range and foster long-term macro-financial stability by preventing the buildup of financial imbalances that could arise from a low-for-long interest rate environment (Box 3: Appropriate monetary policy for long-term macroeconomic and financial stability).

The gradual policy normalization over the recent meetings has brought the current policy interest rate to a level that is appropriate for supporting long-term sustainable growth. In deliberating monetary policy going forward, the Committee will take into account growth and inflation outlook, including upside risks from government policies.

Box 3: Appropriate monetary policy for long-term macroeconomic and financial stability

Achieving stable and sustainable economic growth requires a stable and sound financial system that could effectively perform intermediary role and is not a source of economic uncertainties itself. Country experiences around the world clearly demonstrated that severe and prolonged economic recessions tend to be caused by the buildup of financial imbalances that ultimately result in a financial crisis that propagates to the real economy at large. The most recent example is the Global Financial Crisis (GFC) in 2008.

Volatility in the financial system could impact the real economy through many channels and in many ways. Higher credit growth could boost economic activities through increased consumption and investment, but at the same time, it could lead to over-indebtedness or unproductive investments that result in a buildup of vulnerabilities in the financial system. How much credit is extended also plays a part in determining prices of assets such as bonds and real estate. This affects not only households' wealth and consumption but also the values of collateral assets that are used to spur more borrowing in a self-reinforcing effect. As a result, asset prices could increase more than they should, leading to speculative investments and, ultimately, asset price bubbles.

In the face of shocks, the buildup of vulnerabilities would exacerbate the impact of shocks on the broader economy. Banks or creditors that lose confidence in the economy will downsize their lending portfolio or call for early repayments, which may force borrowers to sell off their assets rapidly to repay debt (fire sale). Such fire sales would result in a decline in asset prices and collateral value, leading to a continued contraction in credit in a self-reinforcing manner. In the worst-case scenario where financial institutions are under system-wide distress such as during the GFC, the lack of confidence and trust could bring interbank borrowing to a complete stop, resulting in a credit crunch where banks are unable to carry out their roles in financial intermediation. This significantly impacts the real economy as businesses would lack the working capital to engage in any sorts of economic activity to the point where they might have to lay off their employees or close down completely. This in turn affects the income of labor and households, especially those that became highly indebted during the period prior.

The aforementioned linkage between financial imbalances and likelihood of crisis is supported by a vast body of literature, both theoretical studies and empirical studies, that performs a cross-country analysis using large sample of countries. Theoretical studies such as the credit cycle model (Kiyotaki and Moore, 1997) and financial accelerator model (Bernanke et al., 1999). Empirical studies such as a cross-country analysis of 14 countries during 1870-2008 (Schularick and Taylor, 2012) or the cross-country analysis of 20 countries during 1975-2014 (Anundsen et al., 2016). One study also found that financial crisis could result in permanent output loss for an economy over the long run (Juselius et al., 2017).

Box 3: Appropriate monetary policy for long-term macroeconomic and financial stability

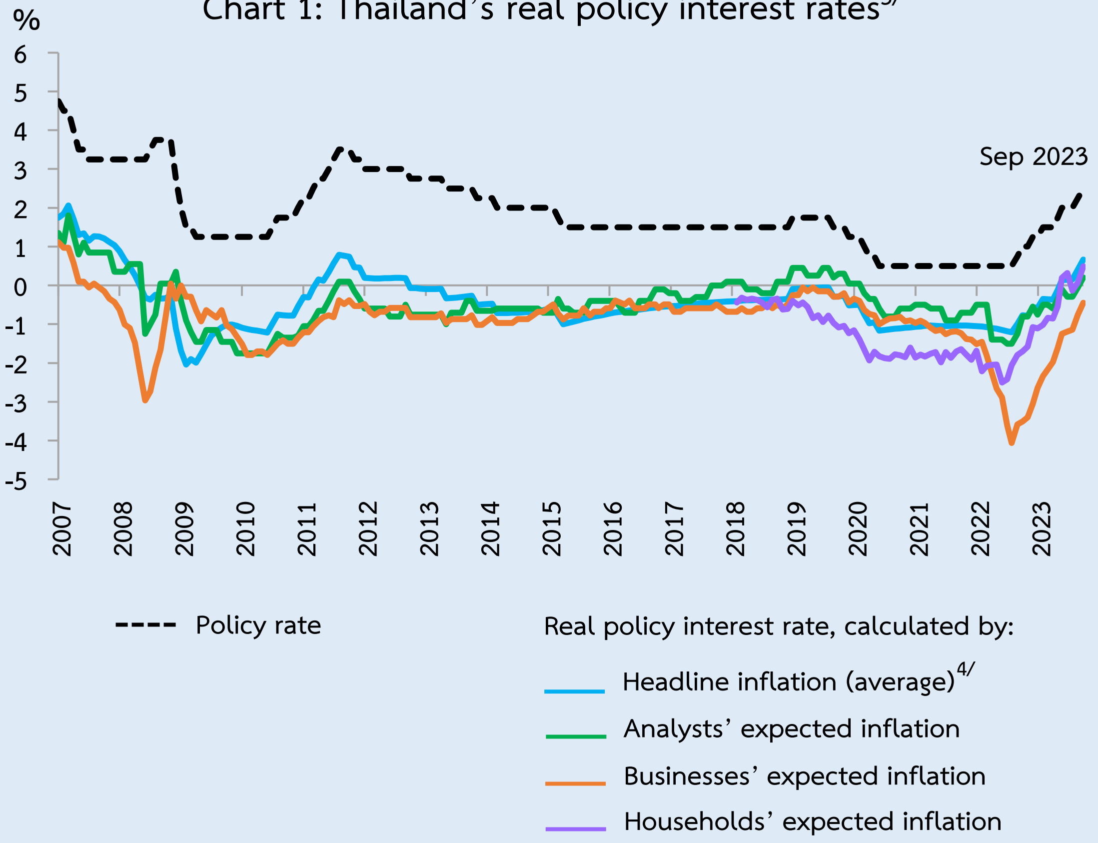
Monetary policy is an important tool for keeping financial imbalances in check and safeguarding against its impact on macroeconomic and financial stability in the long run. Low interest rates and accommodative financial conditions are among the factors that promote credit growth and increases in asset prices, partly through the search-for-yield behavior that takes place in such environment. Should the search for yield becomes too excessive or prolonged, it could lead to an unsustainable financial boom that would eventually result in sharp price volatilities (boom-bust cycle). Moreover, persistently low borrowing costs could result in an underpricing of risks among investors and cause borrowers like businesses and households to overestimate their ability to repay debt. **In summary, maintaining an accommodative monetary policy stance for longer than warranted by the prevailing economic contexts would lead to a buildup of vulnerabilities in the financial system due to increased lending, rising asset prices, and increased risk-taking by investors, businesses, and households.**

These are the reasons why the BOT has always emphasized the importance of macroeconomic and financial stability in conducting monetary policy, and have developed tools to systematically assess financial stability risks. Such tools include a measurement of the financial cycle (FC) [1/], which is used to assess financial stability risks, the Growth-at-Risk (GaR)[2/] framework, which assesses the financial cycle in conjunction with downside risks to growth. The BOT also monitors financial stability through a variety of indicators to assess

[1/] Financial cycle and its policy implication, Box in Monetary Policy Report, September 2019

[2/] The concept of growth at risk and the linkage to Thailand's financial stability, Box in Monetary Policy Report, September 2019

Chart 1: Thailand's real policy interest rates[3/]



Source: Asia Pacific Consensus Forecast, Ministry of Commerce, calculations by BOT

[3/] Real policy interest rate is calculated by subtracting the inflation rate from the policy rate to reflect the real rate of return that one would receive in the future. The inflation rate used in such calculation can vary depending on the methodology.

[4/] Calculated using the cumulative moving average since Jan 2007.

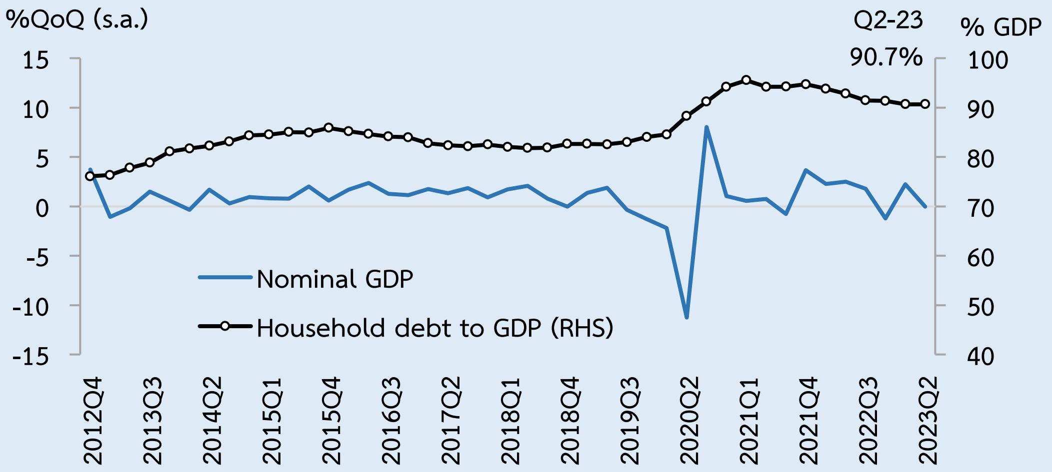
Box 3: Appropriate monetary policy for long-term macroeconomic and financial stability

pockets of risks such as investments in unrated bonds, and property speculation. The BOT also uses macroprudential policy to address financial stability risks in a targeted manner such as the LTV (Loan-to-Value) measure[5/] to limit mortgage loan growth for second homes and beyond that could be used for property speculation.

Over the past decade, the Thai economy has continually faced with shocks including the COVID-19 pandemic. As a result, the monetary policy had to maintain an accommodative stance for an extended period of time as reflected by the real policy interest rates in Thailand, which are calculated using various measures of inflation, remaining below 0% since 2012 (Chart 1). However, the real policy interest rates have gradually edged up closer to 0% since the latter half of 2022. This was after the Monetary Policy Committee (MPC) assessed that a very accommodative monetary policy stance has become less necessary given the current growth and inflation outlook and thus decided to gradually normalize the policy rate to a level consistent with long-term sustainable growth.

The appropriate interest rate level is among the factors that could prevent household debt problems from becoming more widespread (Chart 2). The elevated household debt levels seen currently is in part a result of the sharp increase in bank lending after the historical flood in 2011 as well as government stimulus measures. As a result, household debt to GDP[6/] grew from 76.1% in 2012 to 85.9% in 2015, and remained elevated since. Household debt to GDP eventually rose above 90% in 2020 partly due to income losses during the COVID-19 pandemic.

Chart 2 Nominal GDP growth comparing to previous quarter (s.a.) and household debt to GDP [6/]



Source: BOT and NESDC

The current household debt to GDP level of 90.7% as of end Q2-2023 is still higher than levels seen in the past and is higher than the sustainable level of 80%[7/]. This reflects the fact that Thai households still have high debt service burden, which is one of the vulnerabilities that could hinder economic growth going forward.

5/ BOT announced regulations for housing loans by tightening the Loan to Value (LTV) ratio, which became effective on 1 April 2019.

6/ BOT enhanced the coverage of its household debt statistics in June 2023.

7/ Based on analysis by the Bank for International Settlements (BIS)

Box 3: Appropriate monetary policy for long-term macroeconomic and financial stability

In the current context where Thailand's economic recovery has continued to gain traction, monetary policy should focus on laying a foundation for economic and financial stability over the longer-term. The appropriate policy rate level would help the economy rebalance and prevent further buildup of vulnerabilities in the financial system. However, higher interest rates have led to higher debt burden and impacted debt serviceability of some SMEs and households, especially those that are still vulnerable due to slow income recovery. Against this backdrop, the BOT has implemented measures to assist debtors to alleviate and resolve their debt problems in a targeted manner such as debt restructuring programs, Debt Clinic, measures to promote refinancing, and debt consolidation.

In addition, **the BOT has placed emphasis on comprehensive and fair debt restructuring solutions that will not increase debtors' burden over the long term by implementing measures to sustainably address household debt problems**[8/] **(Chart 3).** This include **Responsible Lending** practices to address persistent debt, the adoption of **risk-based pricing (RBP),** and **application of debt service ratio (DSR) limits.** These 3 measures would work together in adjusting the behavior of both creditors and debtors throughout their debt journey. The aim is to address Thailand's household debt problems and bring household debt down to more sustainable levels, which reduce financial stability risks and enhance economic and financial stability over the long term.

[8/] BOT announced measures to sustainably address household debt problems in July 2023.

Chart 3: Measures to sustainably address household debt problems

Encouraging responsible lending practices and addressing persistent debt

Ensuring new debts are of good credit quality; discouraging excessive borrowing; addressing debt overhang and offering options for debtors with persistent debts to fully repay their loans.

Risk-Based Pricing : RBP

Accomodate debtors with better repayment history to be offered better loan terms and conditions, and increase access to formal loans based on each borrower's risk profile

Debt Service Ratio : DSR

Ensure that the approved loan amount is in line with the debtor's repayment capacity and residual income. This would address debt problems at the initial stage, thus reducing the risk of persistent debt or non-performing loans.

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Percent	2021	2022	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2
GDP growth	1.6	2.6	-2.5	7.7	-0.2	1.9	2.2	2.5	4.6	1.4	2.7	1.8
Production												
Agriculture	2.3	2.5	-0.6	3.1	5.2	2.1	3.4	4.0	-2.2	3.4	6.2	0.5
Non-agriculture	1.5	2.6	-2.5	8.2	-0.5	1.9	2.0	2.3	5.1	1.2	2.2	1.9
Manufacturing	4.9	0.4	1.7	17.0	-0.9	3.5	2.0	-0.8	6.0	-5.0	-3.0	-3.3
Construction	2.2	-2.7	12.7	2.3	-4.5	-0.6	-5.1	-4.4	-2.6	2.6	3.9	0.4
Wholesales and retail trade	1.6	3.1	-1.9	4.1	2.1	3.1	2.7	3.2	3.5	3.1	3.3	3.4
Transport and storage	-2.7	7.1	-18.0	10.8	-1.3	4.8	3.5	5.0	10.1	9.8	12.1	7.5
Accommodation and Food Service	-14.2	39.3	-37.4	17.8	-18.8	-4.7	32.2	44.7	53.2	30.6	34.3	15.0
Information and Communication	6.1	5.1	5.2	6.2	7.4	5.8	5.7	6.3	4.7	3.9	3.4	3.6
Financial intermediation	5.5	0.9	6.5	6.3	6.1	3.1	1.0	1.4	1.0	0.5	1.2	3.8
Real estate and renting	1.7	2.1	2.1	2.5	0.6	1.5	1.3	2.4	3.1	1.9	1.9	2.5

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

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Percent	2021	2022	2021 Q1	2021 Q2	2021 Q3	2021 Q4	2022 Q1	2022 Q2	2022 Q3	2022 Q4	2023 Q1	2023 Q2
GDP growth	1.6	2.6	-2.5	7.7	-0.2	1.9	2.2	2.5	4.6	1.4	2.7	1.8
Expenditure												
Domestic demand	1.8	4.1	1.9	4.8	-1.5	2.2	3.6	4.3	6.0	2.6	2.7	3.8
Private consumption	0.6	6.3	-0.1	5.3	-3.2	0.6	3.5	7.1	9.1	5.6	5.4	7.8
Private investment	3.0	5.1	2.9	8.8	2.3	-1.1	2.9	2.3	11.2	4.5	2.6	1.0
Government consumption	3.7	0.2	1.0	0.7	2.5	10.4	8.2	2.7	-1.5	-7.1	-6.2	-4.3
Public investment	3.4	-4.9	18.8	3.1	-6.7	1.8	-3.8	-8.8	-6.8	1.5	4.7	-1.1
Imports of goods and services	17.8	4.1	2.1	29.9	27.4	15.6	4.4	7.3	9.5	-4.8	-1.0	-2.4
imports of goods	18.2	5.4	5.0	29.9	26.5	14.5	6.6	9.9	11.2	-5.9	-3.3	-4.3
imports of services	16.0	-0.6	-9.4	30.3	32.6	21.0	-3.3	-1.9	3.7	-0.9	8.9	5.4
Exports of goods and services	11.1	6.8	-9.8	28.8	13.0	18.7	11.9	7.8	8.7	-0.7	3.0	0.7
exports of goods	15.3	1.3	3.0	30.9	12.4	17.5	9.7	4.3	2.3	-10.5	-6.4	-5.7
exports of services	-19.9	65.8	-61.0	9.0	19.4	31.2	35.5	47.7	79.2	94.9	87.8	54.6
Trade balance (billion, U.S. dollars)	32.4	13.5	7.4	9.3	7.5	8.1	7.6	2.7	-0.9	4.2	2.9	2.2
Current account (billion, U.S. dollars)	-10.3	-15.7	-1.7	-2.6	-4.4	-1.6	-2.1	-7.1	-7.3	0.7	2.0	-2.5
Financial account (billion, U.S. dollars)	-5.0	6.6	-6.7	-2.5	2.7	1.5	4.6	-1.4	-1.9	5.3	-0.7	-2.5
International reserves (billion, U.S. dollars)	246.0	216.6	245.5	246.5	244.7	246.0	242.4	222.3	199.4	216.6	224.5	218.2
Unemployment rate (%)	2.0	1.3	2.0	1.9	2.3	1.7	1.5	1.4	1.2	1.2	1.0	1.1
Unemployment rate, seasonally-adjusted (%)	n.a.	n.a.	2.0	1.9	2.2	1.7	1.5	1.4	1.2	1.2	1.0	1.1

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

Financial Stability Dashboard

Indicators	2021	2022	2021				2022				2023	
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
1. Financial market sector												
Bond market												
Bond spread (10 years - 2 years)	1.2	1.0	1.5	1.3	1.3	1.2	1.4	1.2	1.3	1.0	0.6	0.4
Equity market												
SET index (end of period)	1,657.6	1668.7	1,587.2	1,587.8	1,605.7	1,657.6	1,648.8	1,568.3	1,589.5	1668.7	1609.2	1503.1
Actual volatility of SET index[1/]	12.0	11.0	13.6	12.4	11.8	10.4	12.0	12.6	9.9	9.4	12.0	11.6
Price to Earnings ratio (P/E ratio) (times)	20.8	18.2	41.4	30.2	20.5	20.8	19.6	18.5	17.5	18.2	19.3	18.0
Exchange rate market												
Actual volatility of Thai baht (%annualized)[2/]	5.4	8.7	4.4	4.4	5.5	7.3	6.6	6.4	9.3	11.9	10.9	8.0
Nominal Effective Exchange Rate (NEER)	117.8	115.6	122.7	119.3	114.8	114.6	116.8	116.4	113.6	115.8	120.3	119.8
Real Effective Exchange Rate (REER)	104.7	103.4	109.0	106.0	101.7	102.3	104.4	103.8	101.9	103.4	106.0	104.5
2. Financial institution sector[3/]												
Minimum Lending Rate (MLR)[4/]	5.49	6.00	5.36	5.36	5.49	5.49	5.49	5.49	5.55	6.00	6.6	7.0
12-month fixed deposit rate[4/]	0.45	0.98	0.44	0.42	0.45	0.45	0.45	0.45	0.50	0.98	1.1	1.4
Capital adequacy												
Capital funds / Risk-weighted asset (%)	19.9	19.4	20.0	20.0	19.9	19.9	19.8	19.6	19.2	19.4	19.4	19.5
Earning and profitability												
Net profit (billion, Thai baht)	181.1	236.0	44.2	60.4	38.5	37.9	49.0	65.0	60.0	62.0	60.0	74.0
Return on assets (ROA) (times)	0.8	1.0	0.8	1.1	0.7	0.8	0.9	1.1	1.0	1.1	1.0	1.3
Liquidity												
Loan to Deposit and B/E (%)	94.2	92.0	92.2	92.8	93.8	94.2	92.8	93.8	94.5	92.0	90.6	92.0

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)

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Indicators	2021	2022	2021				2022				2023	
			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
3. Household sector												
Household debt to GDP (%)	94.7	91.4	95.5	94.2	94.2	94.7	93.8	92.8	91.5	91.4	90.7	90.7
Financial assets to debt (times)	2.8	2.8	2.6	2.7	2.7	2.8	2.9	2.9	2.9	2.8	2.8	n.a.
Non-Performing Loans (NPLs) of commercial banks (%)												
Consumer loans	2.7	2.6	2.9	2.9	2.9	2.7	2.8	2.7	2.6	2.6	2.7	2.7
Housing loans	3.5	3.0	3.7	3.7	3.6	3.5	3.5	3.4	3.3	3.0	3.2	3.2
Auto leasing	1.5	1.9	1.6	1.6	1.7	1.5	1.5	1.5	1.7	1.9	1.9	2.0
Credit cards	2.3	3.1	3.0	3.5	3.0	2.3	2.8	2.7	2.5	3.1	3.1	3.0
Other personal loans	2.3	2.4	2.5	2.5	2.4	2.3	2.5	2.4	2.2	2.4	2.3	2.3
4. Non-financial corporate sector 5/												
Operating profit margin (OPM) (%)	8.4	7.4	9.2	8.2	7.9	8.4	7.7	8.3	7.3	6.4	7.4	7.4
Debt to Equity ratio (D/E ratio) (times)	0.7	0.7	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Interest coverage ratio (ICR) (times)	6.9	4.4	6.5	6.3	5.9	6.9	6.8	6.6	4.9	4.3	4.9	4.4
Current ratio (times)	1.7	1.8	1.6	1.6	1.7	1.7	1.8	1.8	1.7	1.8	1.8	1.8
Non-Performing Loans (NPLs) of commercial banks (%)												
Large businesses	1.5	1.3	1.5	1.6	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2
SMEs	6.9	6.7	7.1	7.1	7.1	7.0	6.9	6.9	6.6	6.7	6.7	6.6

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

Indicators	2021	2022	2021				2022				2023	
			Q1	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	63,207	64,636	15,958	17,238	14,413	15,598	13,611	16,136	17,113	17,776	11,860	14,656
Single-detached and semi-detached houses	18,310	19,471	4,445	4,954	4,169	4,742	4,661	4,949	4,805	5,056	3,709	4,392
Townhouses and commercial buildings	21,372	19,752	5,709	6,133	4,775	4,755	4,367	4,943	5,226	5,216	3,906	4,456
Condominiums	23,525	25,413	5,804	6,151	5,469	6,101	4,583	6,244	7,082	7,504	4,245	5,808
Number of new housing units launched for sale (Bangkok and Vicinity) (units)												
Total	60,394	107,051	9,996	16,028	11,085	23,285	23,923	30,250	24,966	27,912	22,133	25,647
Single-detached and semi-detached houses	13,240	24,748	2,275	3,222	2,963	4,780	3,559	5,323	8,678	7,188	4,942	5,683
Townhouses and commercial buildings	23,709	28,525	2,765	7,492	5,597	7,855	4,655	9,015	6,957	7,898	5,284	5,137
Condominiums	23,445	53,778	4,956	5,314	2,525	10,650	15,709	15,912	9,331	12,826	11,907	14,827
Housing price index (2009 = 100)												
Single-detached houses (including land)	135.84	141.54	134.10	135.04	136.50	137.72	138.63	141.35	140.85	145.32	146.65	145.52
Townhouses (including land)	160.60	167.36	158.78	159.59	161.55	162.48	164.44	167.37	168.44	169.20	171.97	173.23
Condominiums	180.37	184.43	177.18	178.79	185.40	180.10	181.99	185.26	181.57	188.92	194.74	188.88
Land	177.73	180.17	171.03	172.21	179.22	188.43	178.80	179.57	177.99	184.33	175.02	181.64
6. Fiscal sector												
Public debt to GDP (%)	59.7	61.0	54.5	55.4	58.4	59.7	60.6	61.0	60.5	61.0	61.3	61.7
7. External sector												
Current account balance to GDP (%)	-2.1	-3.0	-1.3	-2.2	-3.8	-1.3	-1.3	-6.2	-5.9	1.3	2.6	-1.5
External debt to GDP (%)[6/]	37.9	40.0	35.5	35.7	36.4	37.9	38.4	37.8	37.0	40.0	40.3	38.1
External debt (billion, U.S. dollars)	196.2	200.30	184.4	185.2	188.4	196.2	197.9	194.0	187.9	200.3	201.8	192.8
Short-term (%)	38.1	40.0	39.0	38.6	38.2	38.1	38.1	39.5	40.7	40.0	39.7	40.1
Long-term (%)	61.9	60.0	61.0	61.4	61.8	61.9	61.9	60.5	59.3	60.0	60.3	59.9
International reserves / Short-term external debt (times)[7/]	2.7	2.3	2.8	2.9	2.8	2.7	2.7	2.4	2.2	2.3	2.3	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

%	2023		2024				2025		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
> 16	0	0	0	0	1	1	1	1	1
14.0-16.0	0	0	0	1	1	1	1	1	1
12.0-14.0	0	0	1	2	2	2	2	1	2
10.0-12.0	0	1	2	5	7	4	4	4	3
8.0-10.0	0	6	8	12	13	10	8	7	7
6.0-8.0	2	21	16	20	17	13	11	11	11
4.0-6.0	11	35	29	22	21	17	15	14	14
2.0-4.0	44	24	24	19	19	21	20	18	19
0.0-2.0	36	10	13	10	11	17	20	21	21
(-2.0)-0.0	6	2	5	4	4	8	11	12	12
(-4.0)-(-2.0)	0	1	1	1	2	2	5	6	6
(-6.0)-(-4.0)	0	0	1	1	1	1	2	3	2
(-8.0)-(-6.0)	0	0	1	1	1	1	1	1	1
< -8	0	0	0	1	1	1	2	1	1

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Probability distribution of headline inflation forecast

%	2023		2024				2025		
	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	0	0	0	0	0	0	0	0	0
7.0-8.0	0	0	0	0	0	0	0	0	0
6.0-7.0	0	0	0	1	2	2	1	0	0
5.0-6.0	0	0	0	6	7	6	3	2	2
4.0-5.0	0	0	1	19	17	15	9	6	6
3.0-4.0	0	0	6	32	26	25	19	15	15
2.0-3.0	0	2	26	27	26	27	27	25	25
1.0-2.0	16	30	41	11	15	17	24	27	27
0.0-1.0	83	55	22	2	5	6	13	17	17
(-1.0)-0.0	1	12	4	0	1	1	4	6	6
(-2.0)-(-1.0)	0	0	0	0	0	0	1	1	1
< -2	0	0	0	0	0	0	0	0	0

Probability distribution of core inflation forecast

%	2023		2024				2025		
	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	0	0	0	0	0	0	0	0
4.5-5.0	0	0	0	0	0	0	0	0	0
4.0-4.5	0	0	0	0	1	1	0	0	0
3.5-4.0	0	0	0	1	4	3	1	1	1
3.0-3.5	0	0	0	5	12	10	5	3	2
2.5-3.0	0	0	2	16	23	20	13	8	7
2.0-2.5	0	1	11	28	28	27	23	17	16
1.5-2.0	1	10	28	29	20	23	27	25	24
1.0-1.5	24	37	34	16	9	11	19	25	25
0.5-1.0	62	39	19	5	2	3	8	15	16
0.0-0.5	13	11	5	1	0	1	2	5	6
(-0.5)-0.0	0	1	1	0	0	0	0	1	2
< -0.5	0	0	0	0	0	0	0	0	0

Pursuing Sustainable Economic Well-Being

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