Inflation Report

October 2010

The *Inflation 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 provide a clear forward-looking framework for economic and inflation forecasting to assist the MPC in making monetary policy decisions and (2) to give the MPC an opportunity to present the explanation for their decisions on various policy issues to the public.

Although individual MPC members may have differing opinions regarding the assumptions on which the forecasts are based, as a group they are in agreement with the forecasts on the outlook for inflation and output as well as the risk factors involved as illustrated in the fan charts.

The Monetary Policy Committee:

Mr. Prasarn	Trairatvorakul	Chairman
Mr. Bandid	Nijathaworn	Vice Chairman
Mrs. Atchana	Waiquamdee	Member
Mr. Ampon	Kittiampon	Member
Mr. Praipol	Koomsup	Member
Mr. Siri	Ganjarerndee	Member
Mr. Krirk-krai	Jirapaet	Member

Thailand Monetary Policy Strategy

Monetary Policy Formulation

- The Monetary Policy Committee (MPC) sets monetary policy in order to attain price stability conducive to sustainable economic growth. The MPC also monitors factors contributing to external stability and financial imbalances.

The Monetary Policy Instrument

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

The Target

- The MPC uses core inflation (excluding raw food and energy) as its policy target with the range of 0.5-3.0 per cent (quarterly average). In the event that the target is missed, the MPC is required to explain the reasons thereof to the public.

Forecasting Tools

- To assist the MPC in making monetary policy decisions, the Bank of Thailand has developed a macroeconomic model to forecast economic conditions and inflation outlook. The model is also employed to evaluate the impact of various factors on the economy and to offer guidelines for appropriate monetary policy responses.

Contents

1. Overview

The global economy continued to recover in 2010 Q3 from the previous quarter. In particular, the Asian economies expanded more robustly compared with other regions as indicated by continued improvement in economic growth on the back of production, consumption, and exports. As a result, capital flows rushed into the region, putting upward pressure on regional currencies. Meanwhile, the major economies had to grapple with persistent headwinds and risks, and economic policies were subject to a higher degree of uncertainty. The recovery in the euro area and Japan remained gradual. Although the latest economic indicators pointed towards a more apparent recovery, stress test results confirmed the resilience of European financial institutions, and the risk of sovereign debt crisis of the PIIGS countries eased somewhat, the recovery was expected to be hampered by significant fiscal consolidation. Furthermore, the US economy is expected to rebound at a slower pace than anticipated in the previous *Inflation Report* due to the prolonged sluggishness of the labour market recovery. This concern was shared by the financial markets, which widely expected further policy actions from the Federal Reserve.

Over the past three months, the Monetary Policy Committee (MPC) notes that:

1. The recovery of the Thai economy remained robust and the economy expanded at a higher rate than anticipated in the previous *Inflation Report*. In 2010 Q2, although the quarter-on-quarter growth slowed to

0.2 per cent after a strong surge in the previous quarter, the Thai economy expanded faster than previously anticipated by the MPC. Private consumption, in particular, continued to accelerate in 2010 Q2, supported by improved employment conditions and robust farm income, together with subdued inflation. Private investment also had a good deal of forward momentum, supported by capacity expansion as reflected in an increase in imports of machineries and equipment to meet growing activities from exports. Investment in construction also contributed positively to overall investment. Moreover, exports managed to expand following the global economic recovery, driven especially by Asia and emerging markets.

Table 1.1 GDP at 1988 prices (Seasonally adjusted)

Change from the previous period (Per cent)	2009	2009			2010	
		Q2	Q3	Q4	Q1	Q2
Domestic demand [1/]	-2.4	1.9	1.0	2.7	1.1	2.9
Private consumption	-1.1	0.9	0.7	2.8	0.2	2.7
Private investment	-12.8	2.2	3.6	3.4	5.9	4.7
Public expenditure	5.8	2.0	0.2	7.2	-1.9	1.0
Net exports of goods and services	23.4	-25.9	8.6	-1.9	9.7	-0.3
Exports of goods and services	-12.7	-3.0	5.5	7.9	5.3	2.1
Imports of goods and services	-21.8	8.6	3.3	11.8	5.2	2.2
Gross domestic product	-2.2	2.9	1.3	4.0	3.3	0.2

Note: [1/]Domestic demand excluding changes in stocks
Source: National Economic and Social Development Board

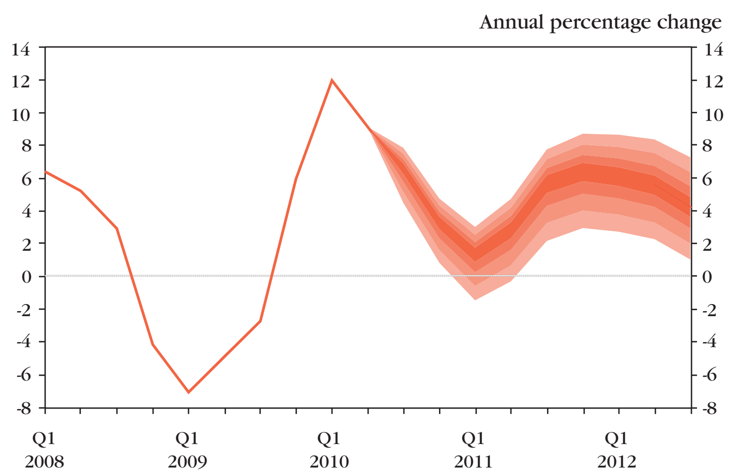
The data for the first two months of 2010 Q3 pointed towards a sustained momentum of the Thai economic recovery. Nevertheless, the growth of economic activities is expected to soften and revert towards the normal trend of growth, due partly to a more subdued external demand which is expected to slow down in the latter half of 2010. This headwind should work to temper growth in exports and manufacturing production especially in export-oriented industries. However, the MPC expects the robust farm income, the ongoing low unemployment rate, and high credit growth to support the recovery of the Thai economy in the third quarter and beyond.

2. Looking ahead, the MPC shares the view that the downside risk to the Thai economy will mostly be from external factors, namely (1) a delayed recovery of trading partners' economies, particularly the developed countries which potentially face structural problems such as persistently high unemployment and the prolonged sovereign debt problems together with the structural weaknesses of some European financial institutions, which could adversely affect Thailand's exports, as well as domestic consumption and investment as a consequence, and (2) the volatility of capital flows across countries due to the uneven global economic recovery, which might in turn induce macroeconomic imbalances within the Thai economy. In addition, internal factors such as slower-than-expected disbursement of government expenditure could also disrupt the momentum of economic recovery going forward.

After assessing the outlook for the global and domestic recovery in conjunction with the surrounding risks, the MPC shares the view that the domestic economy should expand at a higher rate in 2010 than projected in the previous *Inflation Report*. Private consumption, in particular, should become the main growth driver for the Thai economy over the rest of this year. Nevertheless, the average quarter-on-quarter growth momentum in the second half of the year should moderate somewhat as the Thai economy begins reverting to its normal trend. For 2011, the MPC expects the Thai economy to continue expanding at a rate close to previously projected, supported by underlying economic fundamentals that remain robust. Thus, the MPC decides to revise the forecast interval of output growth in 2010 to 7.3-8.0 per cent in 2010 and maintain the forecast for 2011 at 3.0-5.0, with risks skewed to the downside owing to the aforementioned external factors.

3. Thailand's overall financial stability remained solid. The sustained economic recovery helped strengthen firms' and households' balance sheets, resulting in the improvements in the quality of financial institutions' assets and enhanced the overall stability of the sector. At the same time, corporate profits in 2010 Q2 remained strong, at levels close to the previous quarter, reflecting the limited impact of the political unrest during the period. In addition, the ongoing economic recovery and a tight labour market also helped decrease risks to income and employment. The risk of a real

Chart 1.1 GDP growth forecast



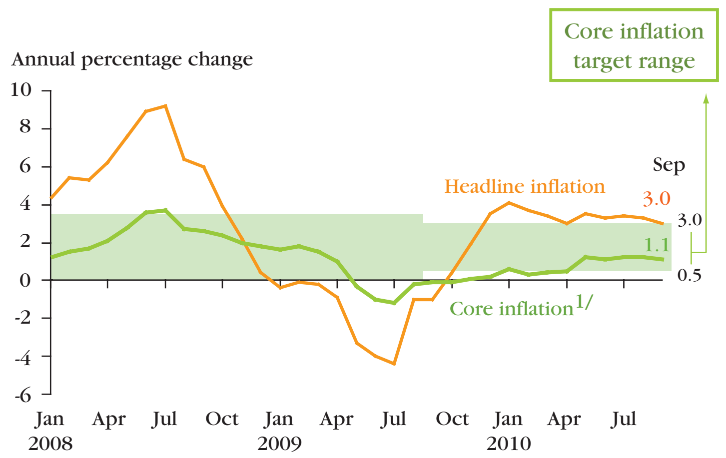
Note: The fan chart covers 90 per cent of the probability distribution estate bubble remained low as the overall house prices remained relatively stable, with purchases underpinned primarily by real demand. The MPC agrees that the major sources of risks to Thailand's financial stability in the period ahead lie in the strength of the domestic and global economic recovery, volatility in global financial markets, and fluctuations in international capital flows.

Inflation outlook and monetary policy

Inflation in 2010 Q3 was in line with the MPC's expectation. Headline inflation stood at 3.3 per cent, leveling off from the previous quarter as a decline in pressure from energy prices was matched by rising pressure from core prices and raw food prices. Core inflation rose from 0.9 per cent in the previous quarter to 1.2 per cent, resulting from the end of the negative contribution from the 15-year free education program. Nonetheless, prices of other goods and services not related to government measures remained mostly stable compared to the previous quarter, which owed partly to the agreement by businesses not to raise prices until the end of the quarter.

The MPC expects price pressure in the short term to stay subdued. Even though the continued economic expansion would put pressure on prices, the price adjustment by businesses has so far been limited due to the highly competitive environment and government price controls. Nevertheless, price pressure should gradually increase in subsequent periods in line with buoyant domestic demand, higher minimum wages, and rising commodity and agricultural prices following global economic recovery.

Chart 1.2 Consumer price index

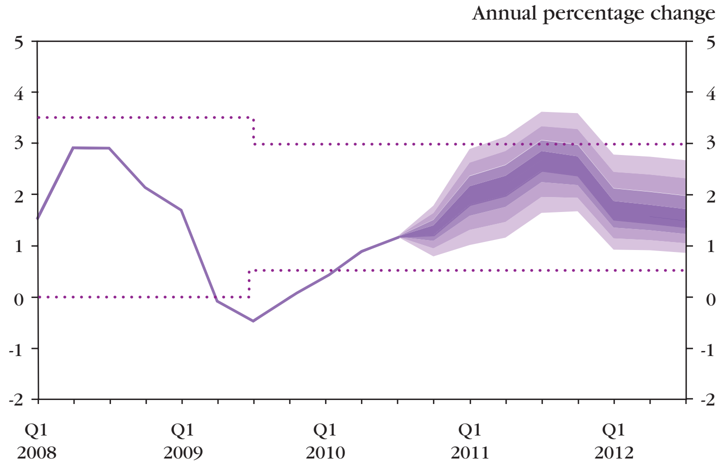


Note: [1/]Consumer price index excluding raw food and energy items
Source: Trade and Economic Index Bureau, Ministry of Commerce

The MPC views the outlook for core inflation in 2010 and 2011 to be similar to that in the previous *Inflation Report*. However, core inflation should accelerate in 2011 driven by demand pressure from the economic recovery and the gradual closing of the output gap, which would allow greater pass-through of rising production costs to retail prices. The outlook on headline inflation in 2010 was similar to the previous projection and would be slightly higher than the previous projection in 2011 due mainly to an upward trend in agricultural prices.

Major upside risks to inflation are (1) the global crude oil supply disruption following hurricanes in the Gulf of Mexico, together with Western countries' sanctions on Iran's crude oil exports; (2) higher domestic farm prices caused by unfavourable weather conditions; and (3) higher minimum wages than expected in the Bangkok Metropolitan Area. Meanwhile, key downside risks to inflation include (1) a slower global economic recovery than the baseline and less severe climate conditions which could cause oil prices and domestic farm prices to be lower than the central projections; and (2) the possibility that the government might extend part of the cost-of-living reduction measures beyond the scheduled termination at the end of 2010. Consequently, the MPC revises the projection for headline inflation. Headline inflation is expected to be within 2.8-3.8 per cent in 2010 and 3.0-5.0 per cent in 2011, whereas core inflation is projected to be within the same range as the previous projection at 0.5-1.3 per cent in 2010 and 2.0-3.0 per cent in 2011.

Chart 1.3 Core inflation forecast



Note: The fan chart covers 90 per cent of the probability distribution

With regard to monetary policy, after a complete assessment of the outlook for growth and inflation over the next eight quarters, on 25 August 2010, the MPC judged that the Thai economy expanded faster than expected in the second quarter. Private consumption, in particular, continued to grow favourably. Inflationary pressure remained low at present but was expected to rise in 2011. There was some possibility that core inflation could rise above the upper bound of the target range, thus lessening the need for an exceptionally accommodative monetary policy. The MPC therefore decided to raise the policy interest rate by 25 basis points, from 1.50 to 1.75 per cent per annum. On 20 October 2010, the MPC judged that the recovery of the Thai economy appeared to be on track, warranting a continued normalization of monetary policy over the medium term. However, given a more subdued outlook for the global economic recovery together with an increase in uncertainty in the global economy and financial markets compared with the last meeting, the MPC decided to maintain the policy interest rate for the time being at 1.75 per cent per annum.

2. Inflation and Economic Conditions

Inflation trends

In 2010 Q3, headline inflation stood at 3.3 per cent, leveling off from the previous quarter. Despite the slight decline in domestic retail oil prices from the previous quarter following the decrease in world oil prices from concerns about the fragility of the global economic recovery, energy price inflation sharply decelerated due to the high base of domestic retail oil prices during the same period last year. Nonetheless, prices of other goods and services continued to accelerate, especially raw food prices as poor weather conditions diminished supply. Meanwhile, core inflation rose from 0.9 per cent in the previous quarter, compared with the same period last year, to 1.2 per cent, resulting mainly from the end of negative contribution from the 15-year free education program, while prices of other goods and services remained mostly stable compared with the previous quarter.

In 2010 Q3, headline inflation stood at 3.3 per cent while core inflation accelerated to 1.2 per cent.

Table 2.1 Quarterly inflation

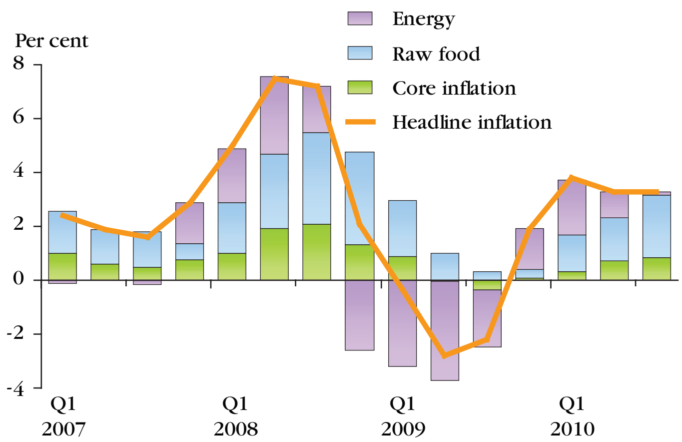
Unit: Per cent	2009	2009		2010		
		Q3	Q4	Q1	Q2	Q3
Percentage change from the previous year (%Δyoy)						
- Headline consumer price index	-0.9	-2.2	1.9	3.8	3.3	3.3
• Core consumer price index	0.3	-0.5	0.1	0.4	0.9	1.2
• Raw food	5.6	2.8	2.6	8.2	9.2	13.8
• Energy	-13.1	-13.2	20.1	26.4	10.9	1.5
- Producer price index	-3.8	-10.2	6.8	12.0	9.3	10.3
Percentage change from the previous quarter (%Δqoq)						
- Headline consumer price index	-	0.5	0.7	1.0	1.0	0.6
• Core consumer price index	-	-0.1	0.2	0.4	0.4	0.2
• Raw food	-	-0.7	2.4	3.3	4.0	3.4
• Energy	-	6.9	0.7	2.6	0.5	-2.2
- Producer price index	-	-1.1	5.3	2.4	2.5	-0.3

Source: Trade and Economic Index Bureau, Ministry of Commerce

Domestic retail oil prices increased from the previous quarter in tandem with global oil prices.

Pass-through of costs to prices was still limited in 2010 Q3 despite (1) rising production costs during the earlier period as seen in the increase of PPI inflation from 9.3 per cent in the previous quarter to 10.3 per cent and (2) an improvement in the economic environment as supported by better business and consumer sentiments which could have supported such pass-through to consumers. The low pass-through might be attributed partly to the willingness of firms to maintain their current prices until the end of 2010 Q3 as requested by the Ministry of Commerce.

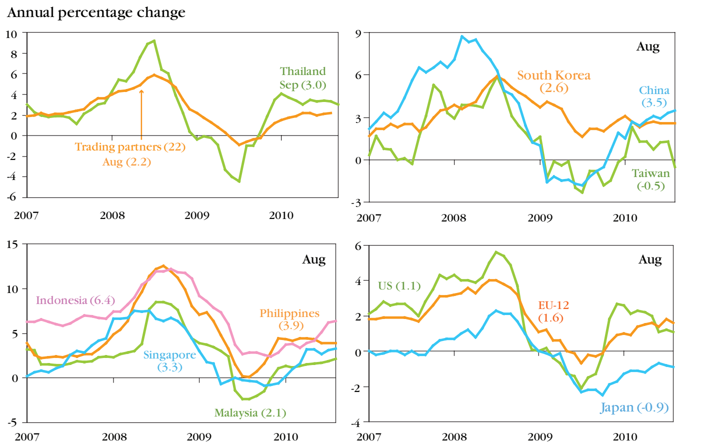
Chart 2.1 Contribution to headline inflation



Source: Trade and Economic Index Bureau, Ministry of Commerce

Going forward, the MPC anticipates that the continued increase in cost pressures along with the global commodity price trend as well as the satisfactory growth of domestic demand, coinciding with the end of the cooperation period to maintain prices at prevailing levels, should lead producers to gradually pass the higher costs onto consumer prices. This view is supported by

Chart 2.2 Inflation in Thailand and other countries



Source: Various official sources and Bloomberg

the Bank of Thailand's Business Sentiment Survey, which indicates that the proportion of firms planning to raise prices in the next three months is higher than the previous year's average.

Most foreign inflation rates showed similarly subdued trends.

Most foreign inflation rates showed similar trends of overall subdued inflation compared with the previous quarter. Price pressures stemmed mainly from the acceleration in food prices as a result of unfavourable weather conditions. Meanwhile, energy prices decelerated due to the high base effect of a rise in global oil price in the same period last year. At the same time, prices of other goods and services slightly increased. The overall inflation in industrialized countries should decelerate somewhat as the economic recovery remains fragile.

Aggregate demand in 2010 Q2 and the outlook for 2010 Q3[1/]

In 2010 Q2, the Thai economy continued expanding with limited effects from the political situation. The pace of growth should slow down in 2010 Q3, however.

The Thai economy continued to grow in the second quarter, expanding by 0.2 per cent from the previous quarter, notwithstanding the effect of political turmoil on exports of services and a cutback in inventories of gold and agricultural products. While the quarter-on-quarter pace of growth decelerated somewhat compared with the first quarter, the overall growth momentum remained firm with a year-on-year growth of 9.1 per cent, supported by the growth of merchandise exports, private consumption, and private investment. The outlook for growth in 2010 Q3 is expected to be more moderate, owing to a slowdown in external demand, a delay in public expenditure disbursement, and accelerated economic activities in the prior period.

Table 2.2 GDP growth rate

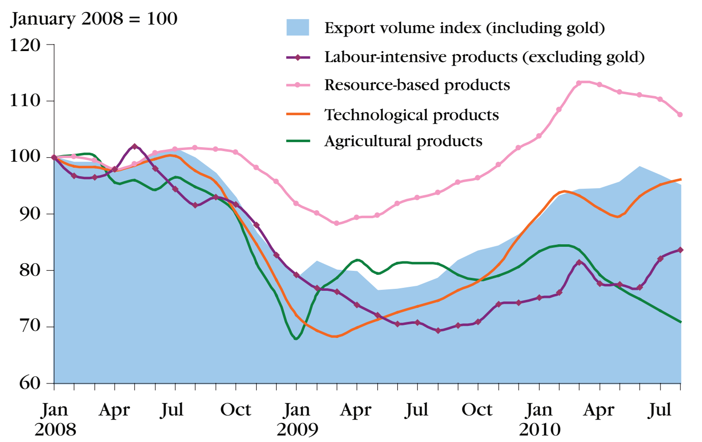
Change from previous quarter (seasonally adjusted, per cent)	2009				2010	
	Q1	Q2	Q3	Q4	Q1	Q2
GDP	-2.0	2.9	1.3	4.0	3.3	0.2
Domestic demand	-4.7	1.9	1.0	2.7	1.1	2.9
Private consumption	-2.8	0.9	0.7	2.8	0.2	2.7
Private investment	-12.8	2.2	3.6	3.4	5.9	4.7
Government consumption	-3.9	2.0	0.2	7.2	-1.9	1.0
Public investment	-0.3	10.5	-1.3	-7.0	2.4	2.6
Exports of goods and services	-5.8	-3.0	5.5	7.9	5.3	2.1
Imports of goods and services	-26.6	8.6	3.3	11.8	5.2	2.2

Source: National Economic and Social Development Board, calculations by Bank of Thailand

[1/] Data used for aggregate demand analysis in 2010 Q2 were obtained from the NESDB. Economic indicators relevant for 2010 Q2 and the outlook for 2010 Q3 were from the BOT, except for the data on government expenditures which were obtained from the Comptroller Generalís Department and compiled by the Fiscal Policy Office.

Exports of goods and services rose 2.1 per cent quarter-on-quarter in 2010 Q2, a significant deceleration from the previous quarter due to a large drop in the exports of services as political instability led to a decline in the number of tourists. Nevertheless, overall exports managed to grow, thanks to exports of goods, in particular electrical appliances, electronic goods, and resource-based products which still registered high growth rates. However, the exports of agricultural products dropped, as the exports of rice faced rising competition from Vietnamese white rice, whose lower price has attracted demand especially during the current period of relatively subdued global growth.

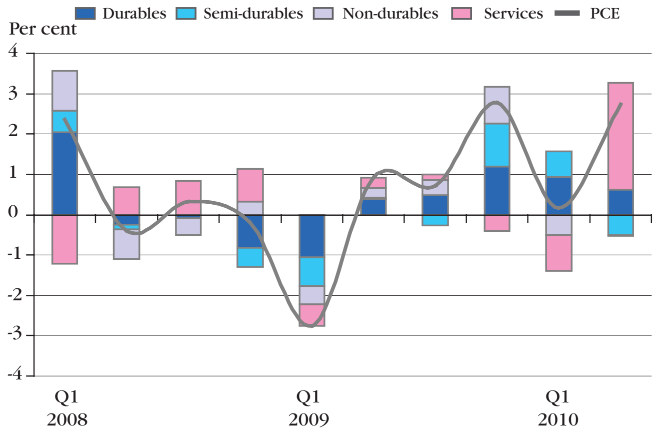
Chart 2.3 Export volume index classified by products



Source: Bank of Thailand

The outlook for merchandise exports in 2010 Q3 remains buoyant but with some moderation, in line with other Asian countries as a result of expected global demand slowdown in the second half of the year. The exports of services picked up since June and trended towards the pre-crisis level.

Chart 2.4 Contribution to private consumption expenditure (PCE) growth (qoq, sa)



Source: National Economic and Social Development Board and calculations by Bank of Thailand

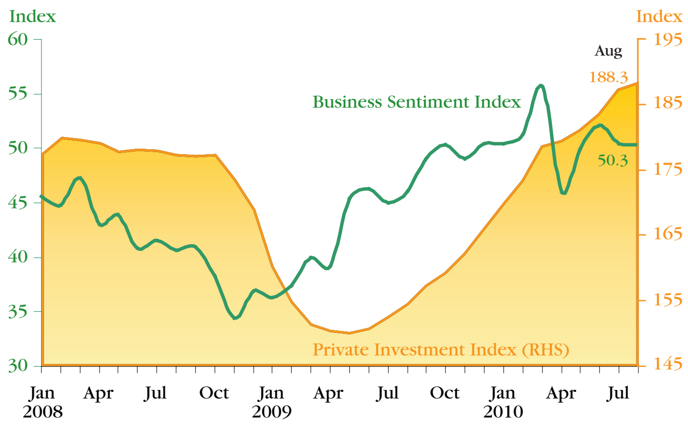
Private consumption accelerated in 2010 Q2. The optimistic trend continues into 2010 Q3.

Private consumption accelerated in 2010 Q2 by 2.7 per cent quarter-on-quarter, supported by subdued inflation and low unemployment rate, as well as robust farm income on the back of rising crop prices. The major contributing component was the expenditure on services, whilst spending on durable goods also continued to expand thanks to sales of automobiles. Although political instability had affected private confidence and consumption to some extent, the impact was only temporary. Consumer confidence has steadily picked up thereafter, and in August the Consumer Confidence Index (CCI) registered at 80.8, the highest level in two years. Improving consumer confidence together with a continuation of overall economic recovery paints a sanguine outlook for private consumption in 2010 Q3.

Private investment continued to grow in 2010 Q2, in both machinery and equipment as well as construction categories.

Private investment continued its rapid expansion, growing by 4.7 per cent quarter-on-quarter in 2010 Q2. Investment in machinery and equipment increased along with imports of industrial machinery, particularly in export-oriented industries such as electronics and electrical appliances which continuously saw high levels of capacity utilization. Moreover, investment in construction also made progress, with expansion in both residential and commercial construction in the north-eastern and Bangkok vicinity.

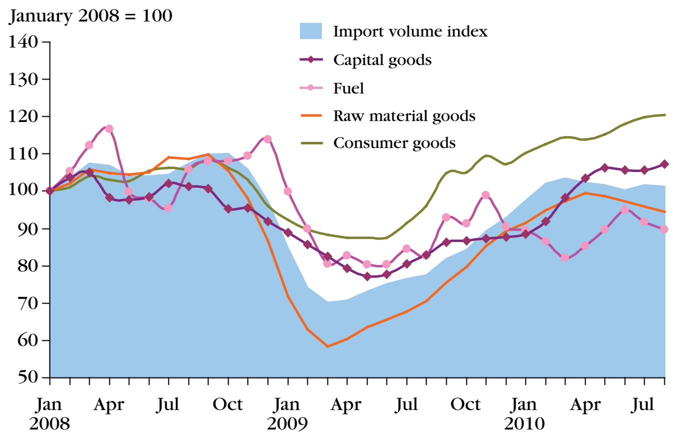
Chart 2.5 Business Sentiment Index and Private Investment Index



Source: Bank of Thailand

The upward trend in private investment should continue into 2010 Q3 given constant flows of orders and high capacity utilization rates. Furthermore, investor confidence remained buoyant; the Business Sentiment Index (BSI) in August registered above the neutral benchmark level of 50 for both current and three-month-ahead conditions. However, economic and political uncertainties together with the risk of rising production costs and impediments to cost adjustments will pose challenges to private investment going forward.

Chart 2.6 Import volume index classified by products



Source: Bank of Thailand

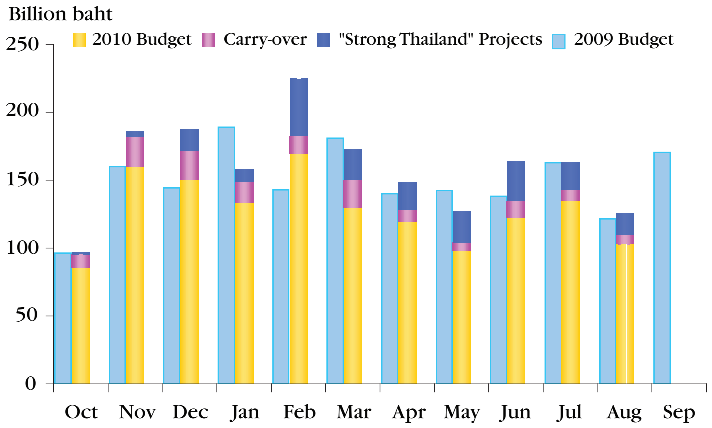
Imports of goods and services accelerated in 2010 Q2 and is likely to continue expanding in 2010 Q3.

Positive developments on both domestic and external demand spurred imports of goods and services in 2010 Q2 to grow by 2.2 per cent quarter-on-quarter. Imports of goods expanded in almost every category. Import growth was particularly strong in electrical appliances, automobiles, and electronics industries which recorded robust sales. Imported consumer goods also continued to expand, driven by imports of electrical appliances, furniture and pharmaceutical goods. Mean-while, imports of services improved slightly thanks to a pickup in tourist spending. Imports of goods and ser vices were likely to recover further in 2010 Q3 in line with the rising trend of private consumption and investment.

Public spending picked up slightly in 2010 Q2 thanks to the ìStrong Thailand' projects.

Public spending picked up moderately in 2010 Q2, growing by 1.5 per cent quarter-on-quarter, owing mostly to the disbursement of the "Strong Thailand" projects. Government consumption grew by 1.0 per cent, after contracting in the previous quarter, as a result of growing compensation of employees and net

Chart 2.7 Disbursement of government budget



Note: Excluding principal repayments and replenishments of the treasury reserve.
Source: The Comptroller General's Department, Ministry of Finance

purchase from government. Public investment expanded by 2.6 per cent from the previous quarter as central government and local administration sped up the disbursement of investment budget. Investment in infrastructure by the National Housing Authority and investment in telecommunication networks also helped spur public investment. Nonetheless, public spending is expected to contract slightly in 2010 Q3 following a delay in the investment of state enterprises.

Production and supply in 2010 Q2 and the outlook in 2010 Q3 [2/]

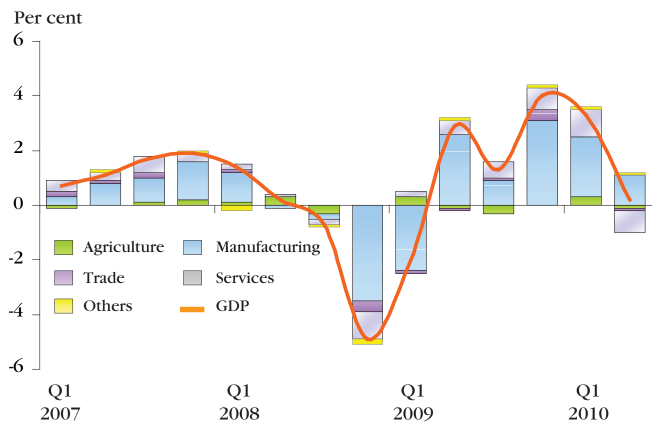
Production and supply grew at a slower rate in 2010 Q2, in line with demand-side developments. The slowdown is expected to continue.

In 2010 Q2, aggregate supply continued to grow further at 0.2 per cent quarter-on-quarter. Consistent with demand, supply growth was importantly driven by the manufacturing sector. Construction also thrived,

[2/] Data used to analyze aggregate supply in 2010 Q2 were mainly obtained from the NESDB. Economic indicators used to analyze 2010 Q2 and the outlook for 2010 Q3 were generally computed by the BOT, except data on the number of tourists and occupancy rate which were in part compiled by the Tourism Authority of Thailand. Data on manufacturing production index and capacity utilization were acquired from the office of industrial economics whilst data on the labour market was attained from the NSO.

supported by both public and private investment. On the other hand, the services and trade sectors contracted, partially due to the political situation. The agricultural sector also shrank because of drought and shortage of rainfall.

Chart 2.8 Contribution to GDP growth (qoq, sa)

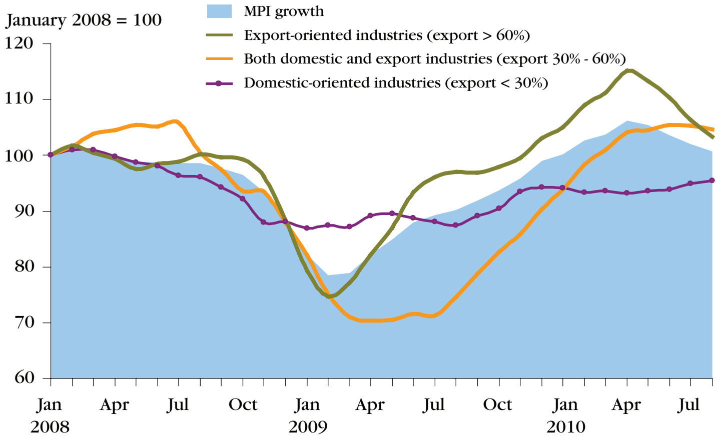


Source: National Economic and Social Development Board

Production and supply should decelerate in 2010 Q3, consistent with the slowing momentum in the manufacturing and agricultural sectors. Despite the overall slowdown in production, capacity utilization and employment condition indicated a persistently high degree of resource utilization, which could add to inflationary pressures looking ahead.

Manufacturing production grew by 2.4 per cent quarter-on-quarter in 2010 Q2, slowing down from the previous quarter. The expansion took place in every industry. The growth of domestic-oriented industries owed principally to the automobile industry, buoyed by continual demand for new designs of passenger cars released since the end of 2009. Industries relying on

Chart 2.9 Manufacturing Production Index (MPI, sa) classified by market



Source: The Office of Industrial Economics, Ministry of Industry Thailand

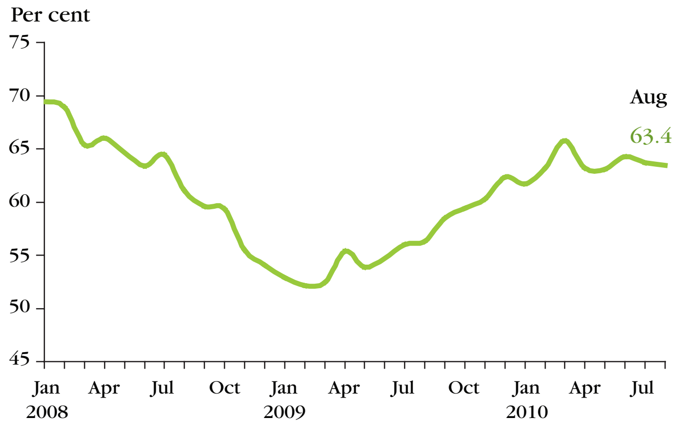
both domestic and export markets expanded only marginally from the previous quarter, as the textile industry faced a shortage of raw cotton supply due to drought early in the quarter. Production of commercial cars remained robust, however. Exports-oriented industries still received regular orders especially for electrical appliances, contributing to further growth in the second quarter.

Manufacturing production to retract in 2010 Q3 from the previous quarter as a result of a moderate trend in export-oriented industries.

In 2010 Q3, manufacturing production was expected to retract from the previous quarter as a result of a moderate trend in exports-oriented industries, particularly for integrated circuits and hard disk drives which had previously been expanding briskly. However, exports of electrical appliances, specifically air conditioners, should continue to be robust given a warmer climate. In addition, there has been a steady flow of pre-orders, especially for the automobile industry which has secured orders for three to four months. Industries that produce for both domestic and export markets should flatten out, whereas domestic-oriented industries are likely to continue growing in line with the domestic demand trend.

The expected slowdown in manufacturing production in 2010 Q3 is consistent with a small reduction in the overall capacity utilization rate, which nonetheless remains high. The latest data in August indicate that the seasonally-adjusted capacity utilization rate was 63.4 per cent, slightly down from 63.7 per cent in the second quarter.

Chart 2.10 Capacity utilization rate (sa)



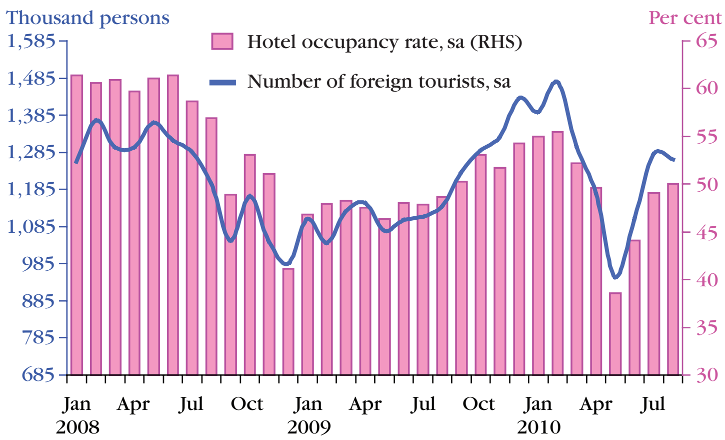
Source: The Office of Industrial Economics, Ministry of Industry Thailand

Adverse effects of political unrest on tourism industry were less severe than anticipated, and tourism clearly recovered by the end of 2010 Q2 .

The services sector in 2010 Q2 contracted by 2.4 per cent quarter-on-quarter, with some sectors having been severely affected by the political unrest. Hotels and restaurants in particular shrank by 11.0 per cent from the previous quarter on account of a sharp drop in the number of tourists, which fell 23.2 per cent quarter-on-quarter, and a depressed occupancy rate, which dropped from 61.0 per cent in the first quarter to 39.2 per cent in the second quarter. Nevertheless, the slump was less intense than the MPC's previous assessment. Additionally, transportation services also contracted, especially air transportation which saw a drop in the number of passengers due to the political situation. Electricity and water supply as well as gas separation fell slightly in accordance with manufacturing production.

The number of tourists and the occupancy rate have been rising steadily since June, with the latest occupancy rate in August standing at 50.3 per cent. A clear recovery in the tourism industry should ensure a brighter prospect for the services sector in 2010 Q3.

Chart 2.11 Number of foreign tourists (sa) and hotel occupancy rate (sa)



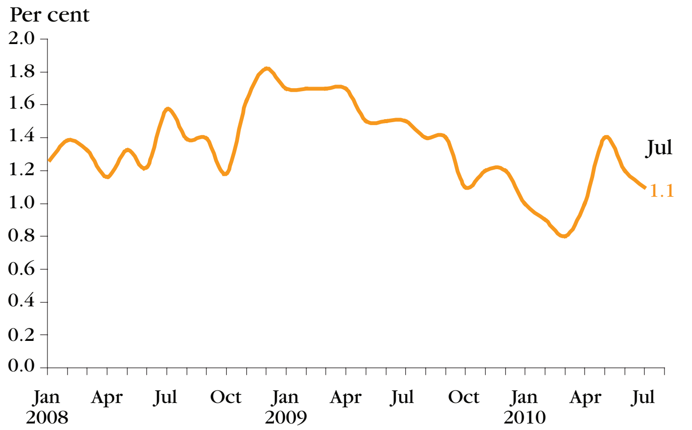
Source: Tourism Authority of Thailand and Bank of Thailand

Farm income continued to accelerate as crop prices continued to surge.

Agricultural output in 2010 Q2 fell slightly by 1.1 per cent quarter-on-quarter, caused by heat and drought which particularly affected the production of off-season rice, rubber, cassava, and sugarcane. On the other hand, the production of livestock and fishery continued to flourish thanks to foreign demand for shrimp and poultry products. Prices of major crops, such as cassava, rubber, and oil palm, continued to surge from the previous quarter, given supply shortage as a result of poor weather. Cassava also underwent an outbreak of aphids which drove up prices to historically high levels. Moreover, increasing world demand also lent support to the prices of major crops, resulting in an acceleration in farm income from the previous quarter.

In 2010 Q3, agricultural production should continue to shrink from arid weather conditions, persistent pest outbreaks, and heavy rainfall in the southern provinces that affects both the production and quality of rubber. Meanwhile, world demand should continue to be buoyant. China, for instance, still needs to import glutinous paddy and tapioca chip to make up for a corn shortage. Hence, major crop prices are expected to climb further, which in turn will lend support to farm income and private consumption in the period ahead.

Chart 2.12 Unemployment rate (sa)



Source: National Statistical Office, calculations by Bank of Thailand

A slowdown in production caused the unemployment rate to rise slightly during April and May. However, signs of labour market tightness became apparent again beginning in June onwards. In July, the seasonally-adjusted unemployment rate remained low at 1.1 per cent. The recruitment difficulty index had been trending lower since mid-2009, and in August registered at 40.1, substantially lower than the benchmark level at 50[3/], indicating that entrepreneurs were facing growing difficulties in recruiting workers. The labour shortage could translate into more inflationary pressure going forward.

Recurrent signs of labour shortage could translate into more inflationary pressures going forward.

[3/] 50 is the level where entrepreneurs experience the same degree of difficulties in recruitment as in the previous month.

3. *Monetary Conditions and the Exchange Rates*

Following the release of the previous *Report,* the MPC met on 25 August 2010, and agreed that the global economy continued to recover, even though the pace of expansion for the remainder of the year for the US and Japan is expected to moderate. Meanwhile, Asian economies continued to grow robustly. The Thai economy expanded faster than expected in the first half of the year, largely due to robust private consumption. Manufacturing production and capacity utilization rose, which should stimulate private investment in the period ahead. Exports grew in tandem with the global economic recovery, although the pace of growth was expected to slow down in the second half of the year. While inflationary pressure remained low, it was expected to rise in 2011 in line with economic expansion and rising costs of production, giving rise to some possibility that core inflation could breach the upper band of the target range in the second half of next year. The MPC therefore decided to raise the policy interest rate by 25 basis points from 1.50 to 1.75 per cent per annum.

In the following meeting on 20 October 2010, the MPC shared the view that the global economy continued to recover but is expected to slow down somewhat in the period ahead. The US and Japanese economies remained fragile due to risks from high unemployment and the sluggish recovery in consumption. Meanwhile, Asian economies continued to grow robustly, driven by consumption and investment. The Thai economy was expected to grow primarily on the back of domestic demand. Meanwhile, the outlook for inflation pressure remained unchanged. Nevertheless, the risk that decelerated global growth may adversely impact Thai exports remained. In light of the slowing global economic recovery together with an increase in the uncertainty in the world economy and financial markets compared with the last meeting, the MPC decided to maintain the policy interest rate for the time being at 1.75 per cent per annum in order to fully assess the global economic situation and its impact on the Thai economy.

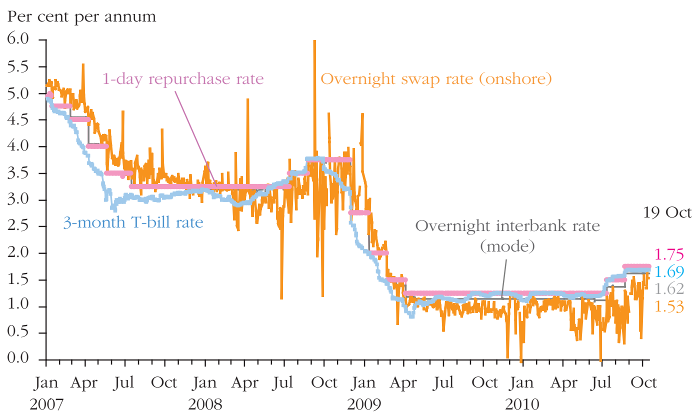
Money market conditions

Money market

Short-term money market rates increased in line with the policy interest rate.

In 2010 Q3, short-term money market interest rates for both collateralized and uncollateralized lending in Thai baht increased in line with the policy interest rate. The 1-day repurchase rate (quarterly average) increased to 1.57 per cent per annum from 1.25 per cent per annum in the previous quarter.

Chart 3.1 Money market interest rates

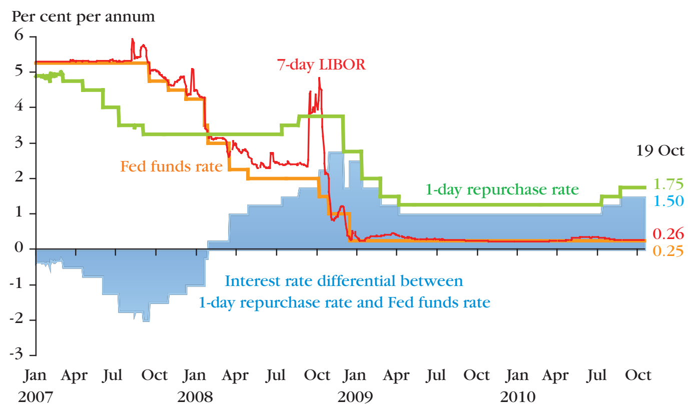


Source: Bank of Thailand

The overnight swap rate, which reflects the cost of borrowing in Thai baht using the US dollar as collateral, and the overnight interbank rate increased in line with the policy interest rate but still remained below the policy interest rate throughout the quarter. This reflected ample liquidity of the Thai baht in the system.

The gap between the Thai and US policy interest rates widened to 1.50 per cent per annum at the end of 2010 Q3, as the MPC had raised the policy interest rate by 50 basis points in the third quarter. The US held the policy interest rate at 0.0-0.25 per cent per annum due to concerns over increasing risks to the US economic recovery.

Chart 3.2 LIBOR, Fed funds rate, and Thai repurchase rate



Source: Bank of Thailand

Bond market

In 2010 Q3, yields of government bonds with maturities of less than three years rose from the previous quarter in line with the policy interest rate. However, medium- and long-term bond yields declined on the

Short-term government bond yields rose in line with expectations of policy rate increases. However, long-term government bond yields declined due to strong demand from foreign investors.

Chart 3.3 Government bond yields

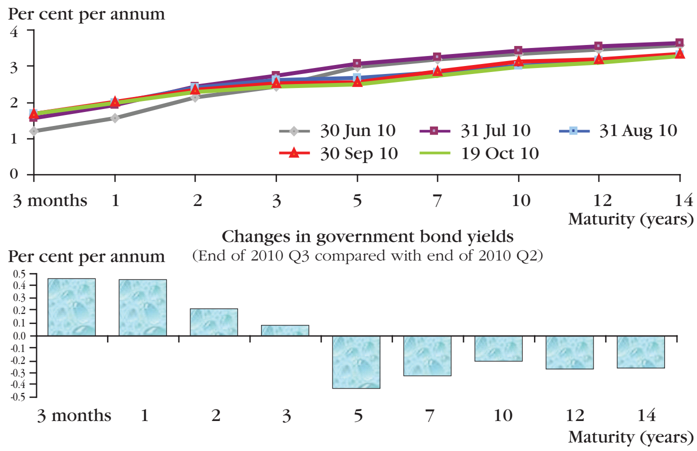
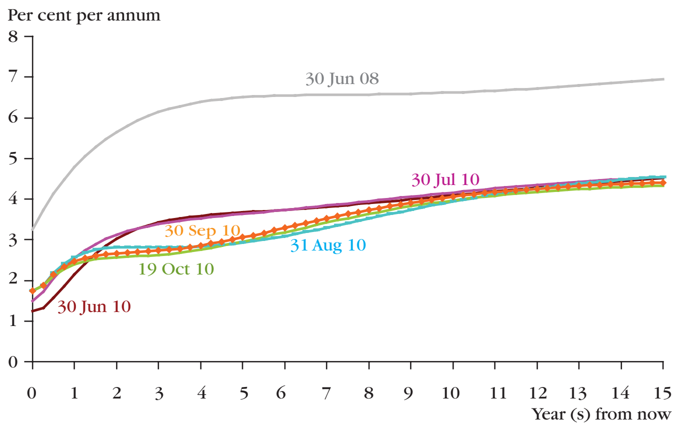


Chart 3.4 Government bond implied forward curves



Source: Bank of Thailand

back of strong demand, especially from foreign investors in line with increased confidence in the Thai economic outlook, coupled with attractive yields relative to those of US and European bonds.

The short end of the implied forward curve, which reflects market expectations of future policy rate levels, became relatively flat as of the end of 2010 Q3 compared with the end of July, after the MPC decided to raise the policy interest rate for the first time since the global financial crisis erupted. The flattened slope reflected market expectations that the policy interest rate would rise at a slower-than-expected pace owing to concerns over the slower global recovery and attendant risks on the Thai economic recovery going forward.

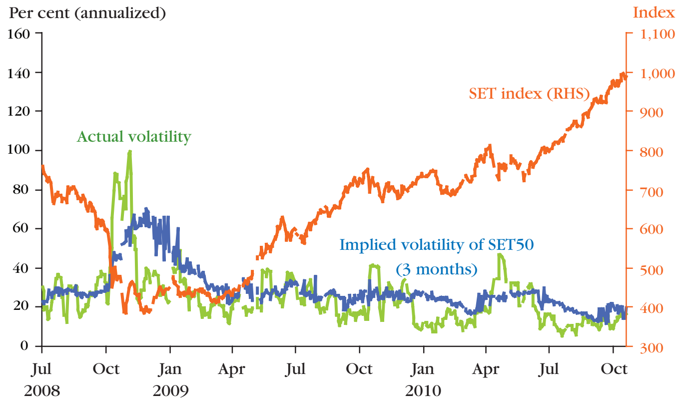
Equity market

The SET index was less volatile in 2010 Q3 compared with the previous quarter.

In 2010 Q3, the SET index climbed up continuously and at the end of the quarter stood at its highest level since September 1996. Moreover, the movements of the index exhibited lower volatility compared with the previous quarter owing to alleviated domestic political situation and improving economic growth prospects. This was consistent with the favourable earnings of companies listed on the Stock Exchange of Thailand in 2010 Q2. In addition, massive liquidity in global financial markets and strong fundamentals of Asian economies attracted foreign flows into Asian stocks, resulting in net purchases of Thai equities by non-residents. However, towards the end of the quarter, volatility picked up due to investors'

Chart 3.5 Volatility of the Stock Exchange of Thailand (SET)

(up to 19 October 2010)



Source: Stock Exchange of Thailand and Bloomberg concerns over the government measures on capital flows to slow down the bath appreciation.

Going forward, investors expected the SET index to be slightly more volatile after rapid acceleration during the preceding period. This was reflected by the high 3-month implied volatility of the SET 50 index relative to its low levels in the previous quarter.

Banking system

Commercial banks' reference rates, on both the lending and deposit sides, edged up from the preceding quarter in line with the policy interest rate.

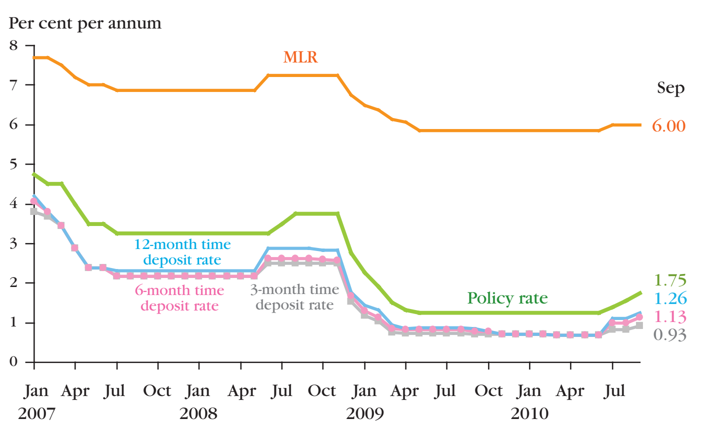
At the end of 2010 Q3, the reference lending rates (MLR) of the four largest commercial banks increased from 5.86 per cent per annum to 6.0 per cent per annum. The rates for term deposits of 3, 6, and 12 months[1/] increased from 0.68 per cent per annum to 0.93, 1.13, and 1.26 per cent per annum, respectively, in line with the policy interest rate. Commercial banks raised the 12-month time deposit rate more than other maturities in order to attract long-term funds while keeping costs down during the upward interest rate cycle.

The real MLR and real 12-month time deposit rates[2/] of the four largest commercial banks at end-2010 Q3 edged up from the previous quarter to 2.22 and -2.35 per cent per annum, respectively. Meanwhile, inflation expectations over the next 12 months remained stable compared with the previous quarter.

[1/] The average between minimum and maximum rates of the four largest commercial banks.

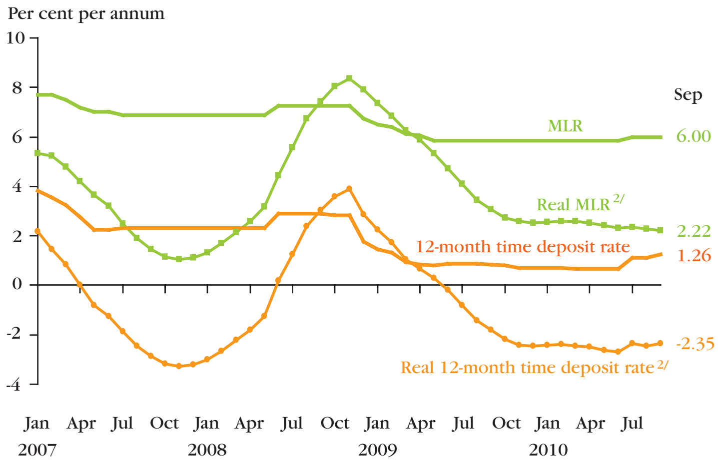
[2/] Minimum lending rate (MLR) and 12-month deposit rate adjusted by expected headline inflation 12 months ahead with the use of compound interest formula.

Chart 3.6 Policy rate and commercial banks' reference retail rates[1/]



Note: [1/] Average rate of the 4 largest commercial banks at end-period. Where a range is posted by a commercial bank, the average of the minimum and maximum rates is used for the calculation.
Source: Bank of Thailand

Chart 3.7 Commercial banks' interest rates[1/]



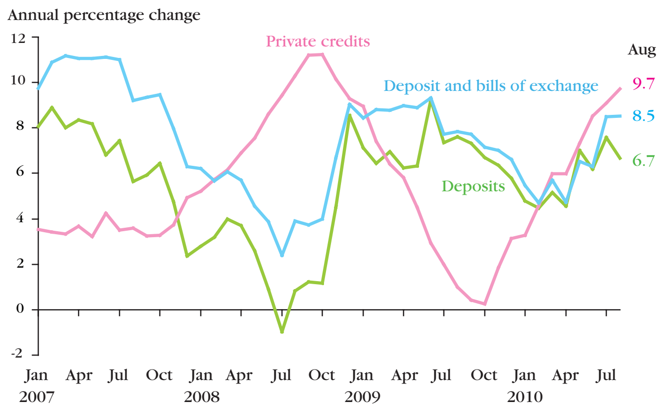
Note: [1/] Average rate of the 4 largest commercial banks
[2/] Real interest rates are calculated from the compound interest rate formula
Source: Bank of Thailand

Deposits, especially bills of exchange, at ODCs continued to increase.

Deposits at Other Depository Corporations (ODCs)[3/] expanded by 8.5 per cent year-on-year in both

[3/] ODCs consist of domestically registered commercial banks, branches of foreign banks, international banking facilities, finance companies, Specialized Financial Institutions (including the Government Savings Bank, Government Housing Bank, Bank for Agriculture and Agricultural Cooperatives, Export-Import Bank of Thailand, Small and Medium Enterprise Development Bank of Thailand, and Islamic Bank of Thailand), saving cooperatives, and money market mutual funds.

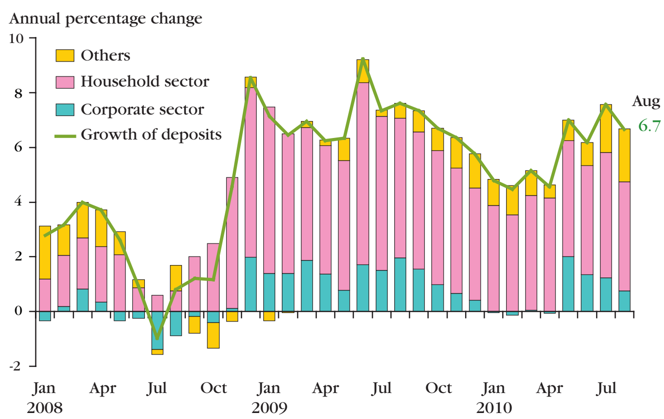
Chart 3.8 Other Depository Corporations' deposits and private credits



Source: Bank of Thailand

April and May 2010. The acceleration was due to an increase in the supply of bills of exchange, which offered higher rates of return. However, the pickup in deposit growth was partly due to a base effect whereby the level of deposits during the same period last year fell as depositors substituted into newly-issued government bonds from deposits in the amount of 80,000 million baht.

Chart 3.9 Other Depository Corporations' deposits by types of depositors



Source: Bank of Thailand

Private credits extended by ODCs continued to grow from the previous quarter by 9.1 and 9.7 per cent year-on-year in July and August 2010, respectively. The expansion of private credits was mainly driven by loans extended to the household sector. Meanwhile, loans extended to the business sector posted a positive month-on-month growth rate for the fourth consecutive month. Moreover, the role of commercial banks in extending credits to the private sector has been improving,

Private credits to both the household and corporate sectors continued to expand.

Chart 3.10 Other Depository Corporations' private credits by types of debtors

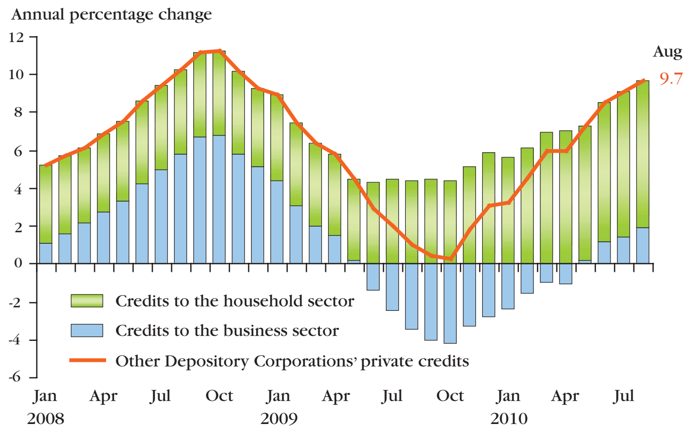
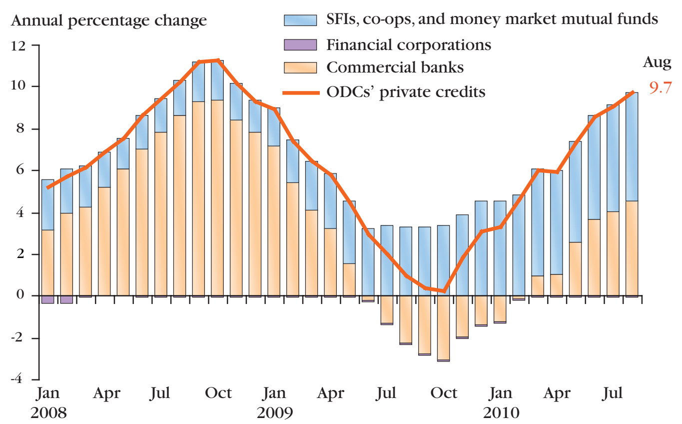


Chart 3.11 Other Depository Corporations' private credits by types of creditors



Source: Bank of Thailand

especially with regard to the household sector. In addition, credits extended to the business sector showed clear signs of recovering in recent months.

Private credits extended by ODCs continued to show a positive month-on-month growth rate. This owed largely to the robust expansion of household credits, while corporate credits had also begun to recover noticeably.

Chart 3.12 Other Depository Corporations' private credits

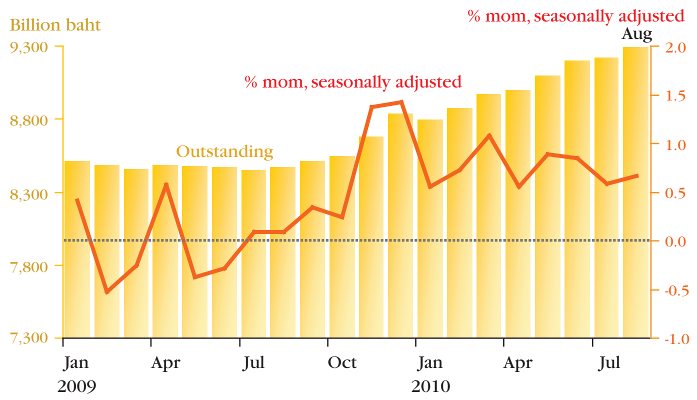
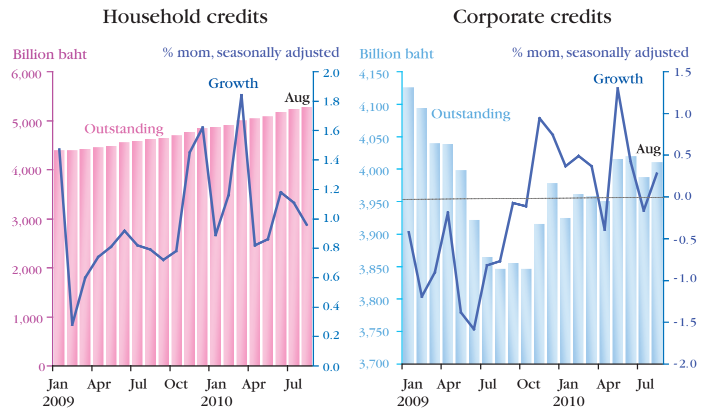


Chart 3.13 Other Depository Corporations' household and corporate credits



Source: Bank of Thailand

Private credits extended by commercial banks, which constitute a subset of ODCs, grew by 6.0 and 6.7 per cent year-on-year in July and August 2010, respectively. The improvement was attributed to the increase in household loans, especially those extended to auto leasing. Meanwhile, housing loans slowed down slightly due to the expiration of property sector stimulus measures at the end of 2010 Q2. Corporate credits continued to show a positive year-on-year growth, particularly to the commerce sector and non-depository institutions such as leasing businesses.

Chart 3.14 Contribution to bank loan growth

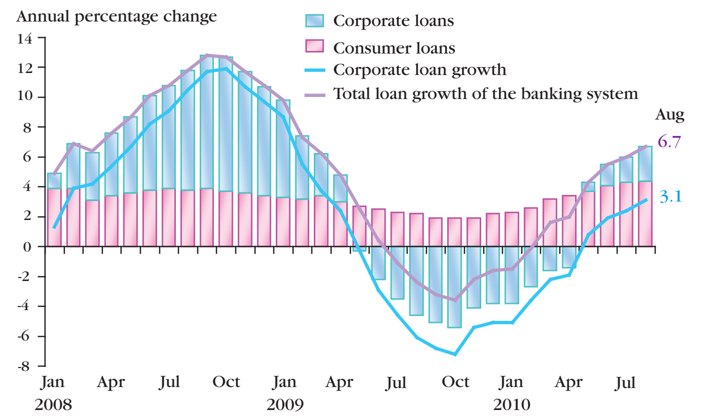
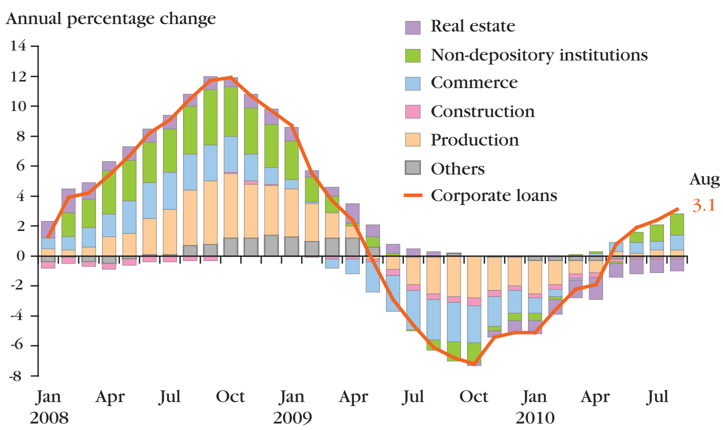


Chart 3.15 Contribution to corporate loan growth by business sector

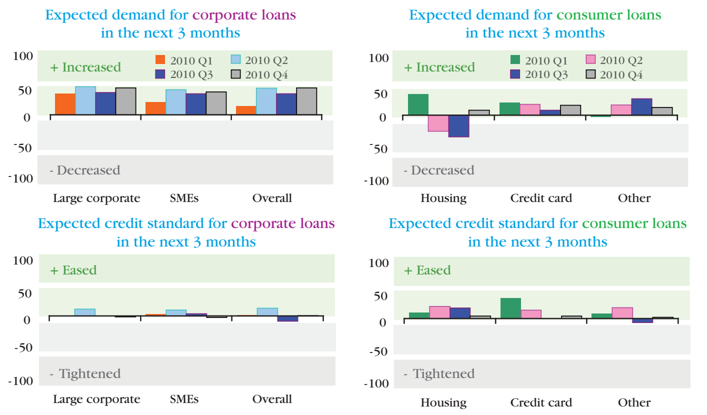


Source: Bank of Thailand

Demand for credits continued to be on an uptrend for both business and household sectors due to seasonal factors.

According to the Senior Loan Officer Survey conducted at the end of September 2010, demand for private credits, especially corporate credits, should continue to grow in 2010 Q4. Demand for household credits should increase as well due to the usual seasonal pickup in demand for credit card loans during the end of the year. Demand for housing loans is expected to slightly increase after the termination of property sector stimulus measures as of mid-2010. Meanwhile, credit standards were expected to remain comparable with what was reported in the previous survey.

Chart 3.16 Expected demand for corporate and consumer loans in the fourth quarter of 2010



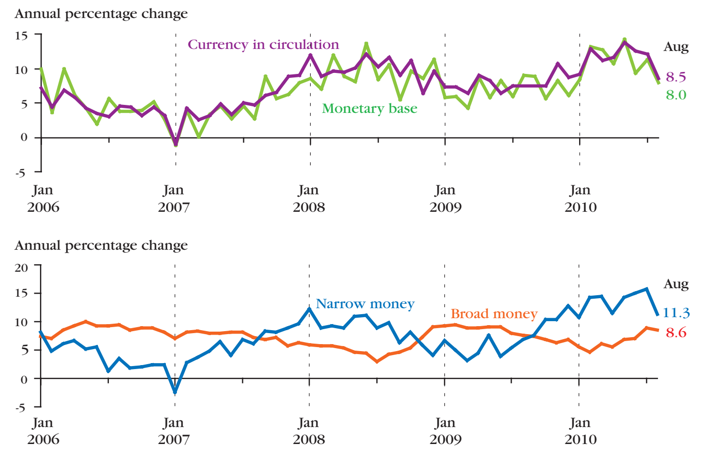
Source: Senior Loan Officer Survey Conducted in the 3rd quarter of 2010

Monetary base and money supply

The monetary base slowed down somewhat due to an easing in precautionary demand for cash as political tensions subsided. Meanwhile, broad money accelerated in line with economic expansion.

In July and August 2010, the monetary base expanded by 11.3 and 8.0 per cent year-on-year, respectively, decelerating from the first half of the year due to an easing in precautionary demand for cash as political tensions subsided. However, the overall monetary base continued to grow robustly in line with the economic recovery.

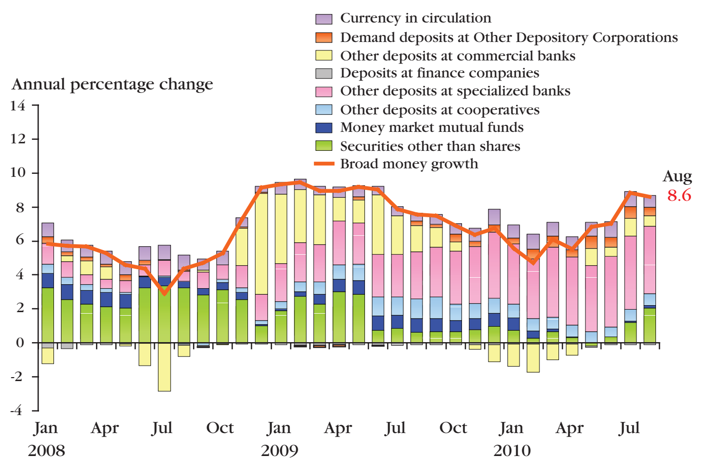
Chart 3.17 Growth rate of money supply



Source: Bank of Thailand

Broad money accelerated from the previous quarter, expanding by 8.8 and 8.6 per cent year-on-year in July and August, respectively, compared with 7.0 per cent at the end of 2010 Q2. The acceleration was the result of an increase in deposits and bills of exchange issued by commercial banks to meet the increase in demand for loans as the economic expansion gathered pace.

Chart 3.18 Contribution to broad money growth



Source: Bank of Thailand

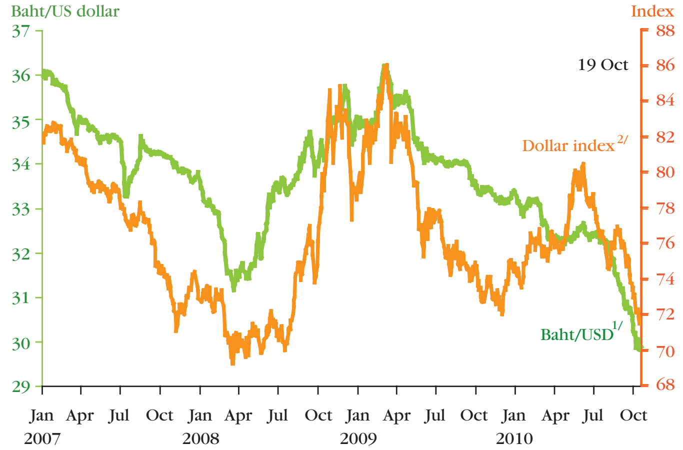
Exchange Rate

The Thai baht strengthened in 2010 Q3 from the previous quarter on average.

In 2010 Q3, the baht continued to strengthen throughout the quarter to average at 31.61 baht per US dollar, gaining 2.5 per cent from the previous quarter's average. Factors underlying the appreciation of the baht during the beginning of the quarter include (1) capital inflows to the region attracted by more robust economic recovery, (2) the easing of investors' concerns over sovereign debt problems in Europe which helped shore up risk appetite, and (3) expectations of monetary policy tightening by regional central banks. However, the pace of the baht appreciation was gradual due to increased demand for US dollars from gold importers after the world gold price substantially declined.

Nevertheless, after the middle of 2010 Q3, the pace of the baht appreciation became more rapid and exceeded those of other regional currencies. The baht eventually reached the level last attained in the 1997 economic crisis. This appreciation pressure arose across regional financial markets as demand for risky assets increased due to the strong regional economic recovery as well as the weak dollar in light of the fragile US economy. However, unlike the cases of other economies in the region, inflows to Thai financial markets continued despite uncertainty over the recovery of the world economy. Potential causes include the strategic allocation of investment funds in favour of Thai securities following recommendations by some market analysts, a more stable political situation, and an unusually rapid appreciation of the baht which not only forced exporters to sell forward their US dollar holdings to prevent losses in their revenue, but also induced further appreciation expectation which added to appreciation pressure.

Chart 3.19 Exchange rate and trade-weighted dollar index



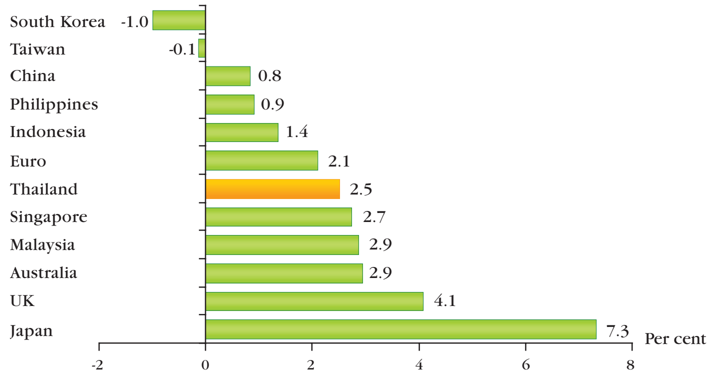
Sources: 1/ Bank of Thailand
2/ Bloomberg

Most major and regional currencies also appreciated against the US dollar.

Regional currencies, with the exception of the Korean won, strengthened from the previous quarter against the US dollar mainly due to capital flows into the region. However, many currencies depreciated to some extent during the mid-quarter from concerns that the global economic recovery may further slow down given recent economic data that were weaker than market expectations.

Regarding major currencies, the yen, euro, and pound sterling also exhibited an appreciating trend against the US dollar. The strengthening of the euro and pound were mainly attributed to (1) better-than-expected European economic data, (2) a decline in investors' concerns over fiscal deficit in European countries, and (3) fragility in the US economy and the attendant dollar depreciation. Meanwhile, the yen continuously appreciated as the deterioration of confidence in the US economy encouraged investors demanding safe-haven assets to switch from dollar-denominated assets to yen-denominated assets. As a

Chart 3.20 Change in the values of foreign currencies against the US dollar in 2010 Q3
(compared with the previous quarter's average)



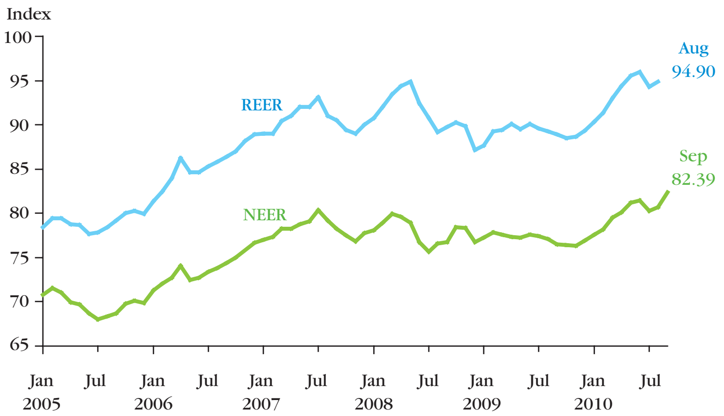
Source: Bank of Thailand

result, the Bank of Japan intervened in the foreign exchange market for the first time since 2004.

Overall, the appreciation of the Thai baht against the US dollar, together with that of most major and regional currencies, resulted in a slight appreciation of Nominal Effective Exchange Rate (NEER)[4/] from the previous quarter by 0.24 per cent. Meanwhile, the average of the Real Effective Exchange Rate (REER)[5/] over the first two months of the quarter depreciated by 0.76 percent from the previous quarter's average, mainly as a consequence of the baht weakening against major currencies, except the US dollar. Nevertheless, the REER quarterly average is expected to be higher than the previous quarter following the sharp appreciation of NEER in September.

[4/] The Thai baht NEER is calculated as a weighted average of bilateral exchange rate between the baht and major trading partnersí currencies.
[5/] The real effective exchange rate (REER) is calculated by deflating the NEER using relative inflation rates to reflect the countryís price competitiveness.

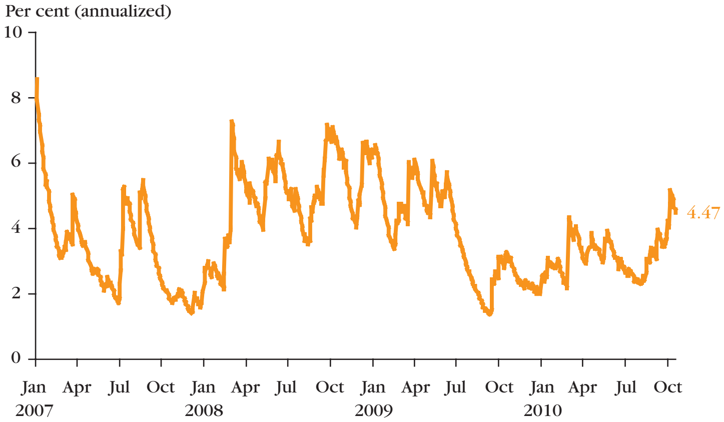
Chart 3.21 Nominal effective exchange rate of the Thai baht (NEER)
(Trade-weighted, 1994 = 100)



Source: Bank of Thailand

The volatility of the baht against the US dollar gradually increased as a result of rapid baht appreciation since the middle of the quarter. However, the average volatility for the entire quarter remained lower than that of the previous quarter, as the baht fluctuated within the narrow range of 32.18-32.44 baht per US dollar and foreign exchange transactions were relatively balanced at the beginning of the quarter.

Chart 3.22 Baht actual volatility
(up to 19 October 2010)



Source: Bank of Thailand

The Nominal Effective Exchange Rate for the Thai baht: Calculation methodology and latest revision by the Bank of Thailand

The Nominal Effective Exchange Rate (NEER) reflects movements of the Thai baht relative to other currencies. The NEER is often used to analyze the country's price competitiveness and the impact of exchange rate movements on the overall economy. The calculation methodology of the NEER requires the following considerations.

1. Choice of currencies in the basket. The BOT selects currencies of countries that are important to Thailand's international trade, namely (1) trading partners whose exports or imports (excluding oil) with Thailand constitute more than one per cent of total Thai exports or imports, (2) countries with the potential to be Thailand's key competitors in third-country markets, and (3) countries that represent important economic regions.

2. Product coverage. The BOT employs international trade figures that cover only goods, not services, in the calculation because (1) the value of trade in goods already constitutes more than 90 per cent of Thailand's total trade; and (2) data on services are not readily available. Including services in the NEER calculation for all countries could result in an incomplete and inaccurate dataset for the calculation and thus compromise the ability of the NEER to reflect the true price competitiveness of the Thai economy.

3. Methodology in calculating currency weights. The NEER is constructed to serve as an indicator of the country's price competitiveness. As such, the weight attached to each trading partner or competitor (country *k*) reflects the competitiveness of Thai products with respect to that particular country in the following dimensions: (1) competition in the domestic market (import competition) whereby home products compete with imports from country *k*; (2) competition in country *k*'s market (bilateral export competition) whereby Thai exports to country *k* compete with local products; and (3) competition between products of Thailand and country *k* in a third-country market (country *j*) as reflected by the share of Thai exports to market *j* and importance of country *k*'s products for market *j*.

The importance of country *k* to Thailand as a trading partner and competitor, or country *k*'s trade weight (W_k), can be calculated as follows:

$$W_k = \lambda^m MW_k + \lambda^x \delta^{BX} BXW_k + \lambda^x \delta^{TX} TXW_k$$

where MW_k , BXW_k and TXW_k are the importance of country *k* to Thai products as a competitor in the domestic market, the country *k*'s market, and the third market, respectively. Parameters λ^m and λ^x reflect the relative importance of import and export competition while δ^{BX} and δ^{TX} denote the relative importance between bilateral and third-market export competition, respectively.

The weights obtained from the above expression are then used to compute the NEER index as a geometric mean based on the formula $NEER_t = \prod_k FX_{k,t}^{W_k}$ where $FX_{k,t}$ is the bilateral exchange rate of country *k* with respect to the baht at time *t*.

During the past decade, particularly after China joined the World Trade Organization, the global and Thai trade structures have continuously evolved. As a consequence, the BOT recently revised the currency basket, as to which currencies to include in the basket as well as the weight assigned to each of them, so that the index best represents current trade dynamics and true price competitiveness.

In the latest revision of the index, the BOT updated the database from 2002 to 2007. Moreover, the BOT utilized expenditure-based gross domestic product data to calculate the share of consumption in domestic production[1/]. This results in more accurate estimates of λ and δ compared with the previous estimation that was based on of the values assumed by the Federal Reserve.

Comparison of currencies and countries in NEER calculation

Subject	Previous index	New index
Year of trade database	2002	2007
Number of currencies	21	23
Number of countries	32 (12 countries adopted the euro)	38 (16 countries adopted the euro)
Share of total trade	83.0	84.8

Under the new basket, the number of currencies has increased from 21 to 23 while the number of countries has increased from 32 to 38 mostly owing to the greater number of countries using the euro. Moreover, the weight of the Chinese renminbi increased while that of the US dollar declined in line with recent developments in trade patterns. Nevertheless, despite the changing weight structure, the calculation cannot completely capture re-exporting in regional trade flows. For example, the high value of Thailand's trade with China can be attributed to the fact that a large portion of Chinese imports are re-exported to serve final demand in G-3. As a consequence, the weight placed on China as Thailand's trading partner may appear to be high relative to the weight on G-3 although, in reality, some Thai products are ultimately destined to G-3. The ability of the NEER to signal competitiveness, therefore, could be limited by these inaccuracies.

Furthermore, the index needs to be cautiously used and interpreted since trade data are an aggregate of all product categories. For some partners or competitors, a high trade volume may not necessarily imply intense competition as the products traded could differ. In addition, the exchange-rate sensitivity of different products could vary, possibly limiting the ability of the index to accurately measure overall competitiveness.

Going forward, the BOT will apply this newly constructed basket of currencies as well as their weights in the calculation of nominal and real effective exchange rates from January 2005 to December 2011 and additionally update the base year to 2007 in line with the trade data. Moreover, from 2011 onwards, the BOT will revise the currency basket and trade weights annually (using trade data with a two-year lag)[2/] so that the index incorporates the changing structure of trade.

1/ Alternatively, the International Monetary Fund utilizes data from the production side, i.e., the Input-Output. The summation of λ^m and λ^x is unity, as is the summation of δ^{BX} and δ^{TX}

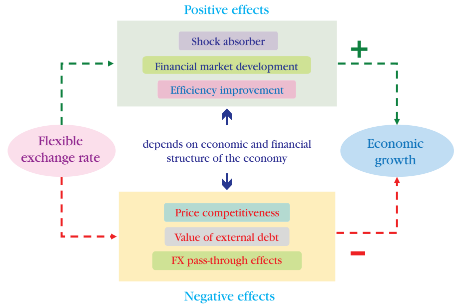
2/ As trade statistics are released with a two-year lag, calculation of the NEER can only be revised once actual data are available.

Exchange rate policy and long-term economic growth

Impending changes in the global economic and financial landscape have important implications for the exchange rate policies of emerging markets in Asia. On the one hand, increasingly large and persistent capital flows to the region can generate excessive short-term exchange rate fluctuations which, in some cases, may warrant active exchange rate management to facilitate smooth economic adjustment in the short run. On the other hand, in the environment of growing trade competition, an exchange rate that is misaligned with changing economic fundamentals and non-conducive to promoting business resilience through productivity and quality improvements will eventually hinder both trade competitiveness and economic growth in the long run.

The appropriate exchange rate policy depends on the monetary policy framework and the economic and financial structure of the country. A country that opts for financial openness and monetary policy autonomy should pursue exchange rate flexibility in order to maintain monetary policy effectiveness. In this case, a flexible exchange rate can help reduce the impacts of external shocks on the economy. In addition, a market-driven exchange rate will reduce firms' reliance on price competitiveness. Instead, firms will have the incentive to compete on productivity and quality, which is more sustainable and contributes to long-term potential growth. Successful economic development in Japan and Taiwan during the 1980s and 1990s when the local currency experienced a sharp appreciation against the US dollar are cases in point. However, for countries with several structural weaknesses, such as heavy reliance on the export sector, massive external debt, underdeveloped market for hedging instruments, or high exchange rate pass-through that make the economy vulnerable to exchange rate movements, highly volatile exchange rates may be excessively damaging to the economic growth (Chart 1). Thus, in many countries especially emerging markets we often observe active exchange rate intervention to stabilize exchange rate movements. However, this can delay exchange rate adjustment only in the short run due to limitations in terms of increasing costs and declining effectiveness of persistent intervention.

Chart 1 Exchange rate flexibility and economic growth



Empirical analysis: exchange rate and long-term economic growth

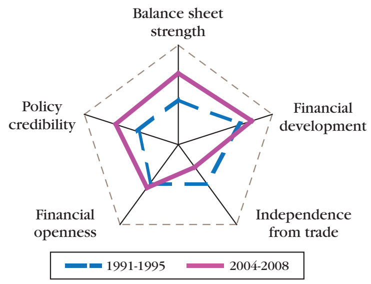
The results from cross-country panel regressions using data from 74 countries during 1980-2008 show that,[/1] the current global economic and financial environment together with improving structural resilience at the country level allows inflation-targeting

[1/] See Ananchotikul, Nookhwun, Pongpaichet, Rastapana, and Rungcharoenkitkul (2010), "The future of monetary policy: roles of financial stability and exchange rate." Paper presented at the Bank of Thailand Annual Economic Symposium, September 2010.

(IT) emerging market economies to reap greater growth benefits from a more flexible exchange rate as long as it does not lead to excessive volatility.[/2] This is because (1) with a flexible exchange rate acting as an absorber of external shocks, the use of the policy interest rate under the IT framework can be more focused and more effective at accommodating domestic shocks; and (2) with the merits of greater transparency and ability to anchor inflation expectation, the IT regime gains greater policy credibility which results in the reduction of exchange rate pass-through.

The study also finds that the negative impact of exchange rate volatility on economic growth has declined over the past decade, partly owing to the strengthening of the economic and financial structure of many emerging markets during this period. In particular, financial development and reduction in external debt have significantly lessened the adverse effect of exchange rate variability on growth. In addition, the results also show that the greater the degree of financial openness, the greater the degree of exchange rate flexibility needed to allow the exchange rate to act as an automatic stabilizer for absorbing external shocks. In the case of Thailand, we find that a number of conditions have changed in favour of greater exchange rate flexibility (Chart 2), which should enable the Thai economy to better withstand the short-term cost of exchange rate volatility while reaping more long-term benefits of greater exchange rate flexibility.

Chart 2 Thailand: Then and Now
Summary of facilitating conditions for FX flexibility



Nonetheless, the empirical evidence indicates that excessively volatile exchange rate should still be a cause for concern as it remains harmful to long-term economic growth. In such cases, the authorities' close monitoring and active management can be justified to avoid sharp jumps in currency movements that may otherwise impede business adjustment.

In conclusion, under greater globalization and growing global competition, exchange rate policy in emerging markets must strike a balance between the short-run goal of maintaining macroeconomic stability and the long-run objective of lifting the growth potential of the country. With increased resilience of the economic and financial structure over the recent decade together with the use of the inflation targeting monetary policy framework, the Thai economy today is in a better position than in the past to withstand exchange rate fluctuations and to benefit from more flexibility going forward, which in turn will help augment private sector resiliency, maintain long-run competitiveness and ultimately lead to more sustainable growth.

[2/] In this study, it is found that for the range of exchange rate movements described as "excessive" –that is, an average monthly change that is greater than 3 per cent for several consecutive months–real GDP per capita decreases by 0.7 per cent for every 1 per cent increase in the average change of the monthly exchange rate. However, when combined with the positive effect of the inflation targeting regime, real GDP per capita increases by 1.4 per cent.

4. Financial Stability Conditions and Outlook

Thailand's overall financial stability remains sound amid ongoing normalisation of the monetary policy stance whereby the policy rate was raised twice since the previous *Inflation Report*. Sustained economic recovery has helped strengthen firms' and households' balance sheets, resulting in improvements in the quality of financial institutions' assets and enhancements in the overall stability of the sector.

The MPC foresees the major sources of risks to Thailand's financial stability to be the continuation of the domestic and global economic recovery, volatility in global financial markets, and rapid fluctuations in international capital flows.

Non-financial corporate sector

Corporate profits in 2010 Q2 remained strong, comparable with levels seen in the previous quarter, reflecting the limited impact of the political unrest.

Although the political unrest adversely affected the hotel and restaurant sector in 2010 Q2, the overall performance of non-financial companies listed on the Stock Exchange of Thailand remained sound and comparable with the level seen in the previous quarter. In particular, both corporate profitability and debt-servicing ability were higher than pre-crisis levels on average, with a median operating profit margin of 6.7 per cent and a median interest coverage ratio of 4.1. In addition, liquidity and debt-to-equity ratios of these firms stood at healthy levels of 0.7 and 1.4, respectively.

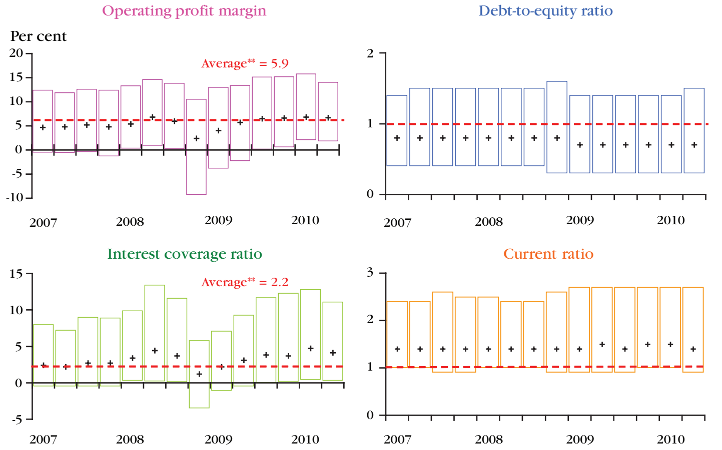
In 2010 Q3, the appreciation of the baht negatively affected some segments of the manufacturing sector, especially those firms that utilise domestic resources intensively in their production. Nevertheless, a survey of business firms[1/] indicates that the business sector has started to respond to currency risk in a number of ways, for instance by reducing the lead time in booking orders from 6 months to 3 months, increasing the use of hedging instruments, and raising export prices in cases where firms possess sufficient market power. These adjustments, along with the generally strong financial health of firms and solid economic fundamentals, will help cushion the impact of currency appreciation in the period ahead.

Chart 4.1 Operating profit margin of the corporate sector*

Note: * Median
Source: Stock Exchange of Thailand, calculations by Bank of Thailand

1/ The Economic Business Information Exchange Programme between the Bank of Thailand and the Business Sector.

Chart 4.2 Indicators for the corporate sector*



Note: * Each bar depicts an interquartile range, where the upper and lower bounds represent the 25th and 75th percentiles, respectively. The symbol + indicates the median.
**Average 2000 Q1 - 2007 Q4
Source: Stock Exchange of Thailand, calculations by Bank of Thailand

Going forward, in addition to the impact of the Thai baht appreciation, major risks to corporate profits and stability include the fragility of the world economic recovery due to a more protracted economic recovery in the US and sovereign debt problems in Europe.

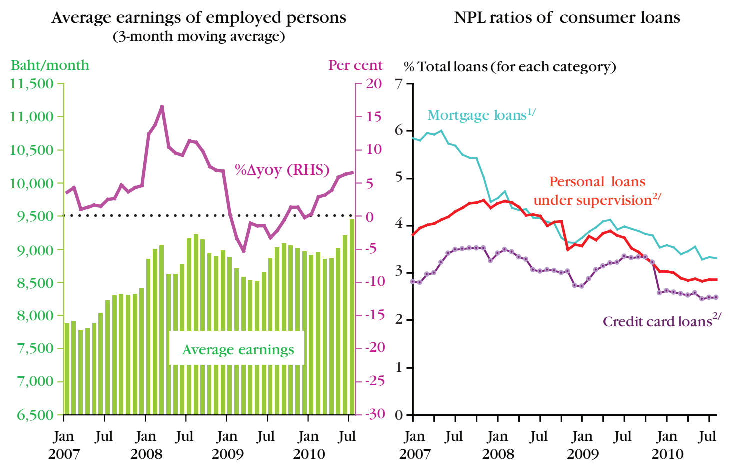
Household sector

Risks to household income remain low, while households' ability to service debt has improved.

The financial health of the household sector remains sound, supported by the ongoing economic recovery and a tight labour market, which diminishes risks to income and employment. In addition, continued growth in household income has helped maintain households' ability to service debt, as reflected in the stable NPL ratio of consumer loans compared with the previous quarter.

Nonetheless, the MPC judges that a major risk to households' financial stability going forward comes from potential disruptions in the economic recovery, especially as the manufacturing sector adjusts to fluctuations in the exchange rate.

Chart 4.3 Indicators for the household sector



Source: National Statistical Office

Note: 1/ Commercial banks' loans
2/ Total loans from commercial banks and non-banks
Source: Bank of Thailand

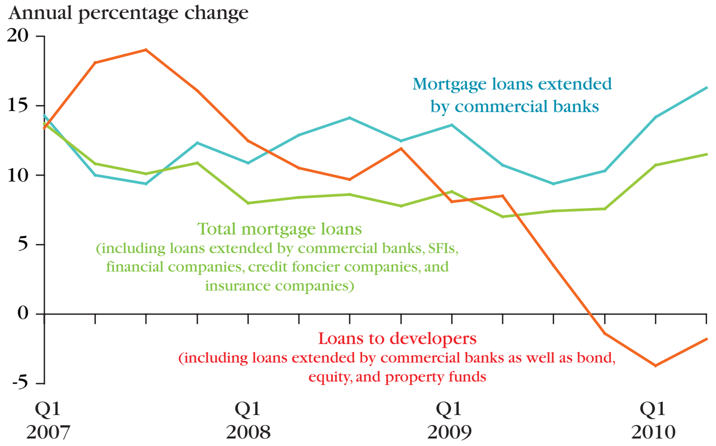
Real estate sector

The risk of a real estate bubble remains low.

The risk of a real estate bubble remains low with overall house prices being relatively stable and purchases underpinned primarily by real demand[2/]. At the same time, credit developments do not point towards the formation of a bubble. Although bank credit and bond issuance by real estate firms trended upwards from the same quarter of the previous year, the overall amount remains relatively low.

2/ According to a business survey conducted under the Economic Business Information Exchange Programme between the Bank of Thailand and the business sector.

Chart 4.4 Growth of real estate loans

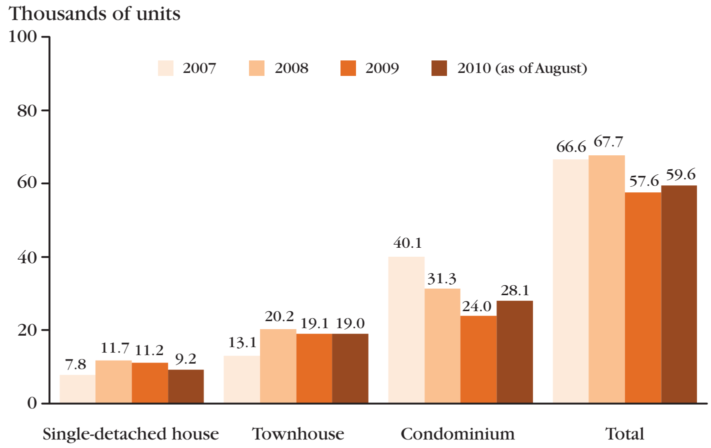


Source: Stock Exchange of Thailand. Securities and Exchange Commission, and Thai Bond Market Association; calculations by Bank of Thailand

In terms of supply developments, the substantial increase in the number of residential projects launched during the first half of 2010 has raised some concerns about the possibility of excess supply. Indeed, 59,592 residential units were launched in Bangkok and its vicinity in the first eight months of 2010, exceeding the total of 57,600 units for the whole of 2009, and the trend appears likely to persist into the immediate future. Nonetheless, the MPC judges that demand over the recent period has been strong, underpinned by the economic recovery and the government's real estate simulus package. Going forward, sustained economic growth should support confidence and demand, both domestic and foreign, sufficiently to meet the increase in supply. This view is consistent with the absorption rate[3/], which indicates that outstanding residential units in 2010 will be sold out in 18 months, faster than the rate of 20 months in 2009.

[3/] The data from Agency for Real Estate Affairs (AREA).

Chart 4.5 New residential units launched in Bangkok and its vicinity



Source: Agency for Real Estate Affairs (AREA)

While there is no evidence of a property bubble at present, housing demand in the period ahead rests crucially on the continuation of the economic recovery. Should this falter, demand may fail to keep up with supply, generating difficulties for the real estate sector. The MPC will closely monitor and continually assess this risk going forward.

Financial institutions

Profitability and capital of commercial banks have been strong.

Sustained economic recovery has helped bolster the strength of financial institutions. Capital and liquidity buffers of Thai financial institutions as a whole remained high in 2010 Q2. The ratio of capital to risk-weighted assets stood well above the minimum requirement of 8.5 per cent, while the tier-1 capital ratio exceeded the 7.0 per cent minimum requirement under Basel III. As such, Thai financial institutions are in a good position to adjust smoothly to ongoing revisions of global standards on bank supervision. Meanwhile, the profitability of financial institutions gradually improved.

Table 4.1 Thai banks' financial soundness indicators (at the end of 2010 Q2[1/])

Key indicators (%)	2009				2010	
	Q1	Q2	Q3	Q4	Q1	Q2
1. Capital adequacy						
1.1 Regulatory capital to risk-weighted assets (8.50)[2/]	14.7	15.6	16.1	15.8	15.7	16.7
1.2 Regulatory tier-1 capital to risk-weighted assets (4.25)[2/]	11.1	11.5	12.1	11.7	11.7	12.3
2. Asset quality						
2.1 Non-performing loans to total loans	5.9	5.8	5.7	5.3	5.0	4.9
3. Earning and profitability						
3.1 Return on assets (ROA)	0.9	0.9	1.0	1.0	1.1	1.2
3.2 Interest margin[3/] to gross income[4/]	70.9	69.5	69.2	69.4	68.5	68.7
3.3 Non-interest expenses to gross income	58.0	55.8	55.5	56.8	56.1	54.4
4. Liquidity						
4.1 Liquid assets[5/] to total assets	18.9	19.3	18.6	19.4	18.3	19.1
4.2 Liquid assets to short-term liabilities[6/]	24.8	25.5	24.8	26.2	25.3	26.6
Number of banks	14	14	14	14	14	14

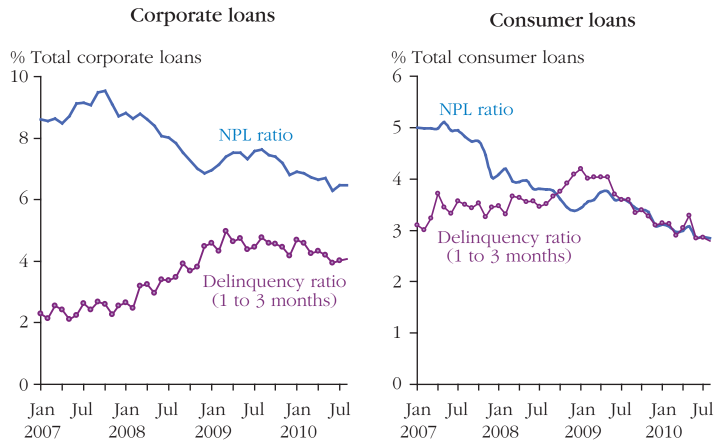
Note: 1/ Based on "Peer Group" data
2/ Minimum regulatory capital to risk-weighted assets
3/ Interest margin = Interest income and dividend - Interest expenses
4/ Gross income = Interest margin + Non-interest income
5/ Liquid assets = Cash and deposits + Securities purchased under resale agreements + Investment in securities (Net)
6/ Short-term liabilities = Deposits (liability side)
Source: Bank of Thailand

Credit risks of financial institution remain low.

The quality of overall loans extended to firms and households remains strong, with the ratio of non-performing loans (NPL) and the ratio of special-mentioned loans (loans past due 1-3 months) both declining in the first 2 months of 2010 Q3 relative to the previous quarter. The decline in non-performing loans reflected debt repayment and debt restructuring as well as debt sold.

The aforementioned strength of financial institutions' balance sheets complements the ongoing economic expansion and augments the role of the financial sector as a source of financing for the corporate sector. Nonetheless, key risks to the quality of financial institutions' assets and the sector's overall stability going forward come from the sustainability of economic growth, both domestically and abroad, and volatility in international financial markets.

Chart 4.6 NPL and delinquency ratios



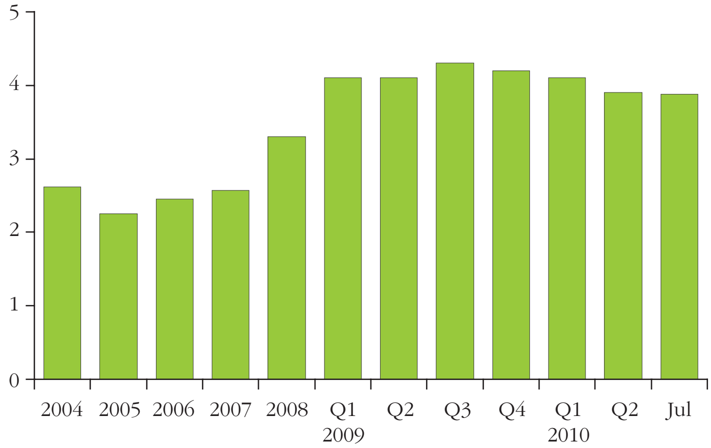
Source: Bank of Thailand

External sector

External stability remains strong.

Thailand's external position remains strong, with international reserves at a high level. Nevertheless, foreign capital flows into Thailand and other Asian emerging markets, following the global economic recovery, may become more volatile and increase fluctuations in the exchange rate. However, Thailand's strong external position should enable the economy to withstand this risk without compromising external stability going forward.

Chart 4.7 International reserves to short-term debt ratio



Source: Bank of Thailand

5. Economic Growth and Inflation Outlook

Latest developments indicated that economic expansion had shown considerable resilience. Despite moderating somewhat due to the impact of the political unrest, the Thai economy registered a stronger-than-expected growth in 2010 Q2 on the back of merchandise exports and private spending. Furthermore, latest indicators for the first two months of 2010 Q3, albeit softening slightly from the preceding quarter, pointed to a robust growth of private sector spending compared with the same period of the previous year. Nonetheless, a slowdown in global demand was likely to weigh down exports, as also reflected in the easing of manufacturing production in several sectors.

Based on these economic data, particularly in light of the resilience of exports and private spending in the second quarter, the MPC projects that, despite the anticipated drag from the softening of merchandise exports in the third quarter, the Thai economy will grow in 2010 at a pace stronger than previously estimated. In particular, from the second half of the year onwards, private spending will become the main driving force of the Thai economy.

With respect to inflationary pressure, year-on-year core inflation edged up in 2010 Q3 due particularly to the drag on prices from the government's tuition exemption vanished after the programme had been in effect for a year. Meanwhile, headline inflation remained close to the figure seen in the previous quarter, as the increase in core inflation and fresh food prices due to inclement weather was roughly offset by the negative contribution from domestic retail oil prices because of last year's high base. Going forward, the MPC projects price pressure to remain subdued for the rest of this year. Inflation will gradually pick up next year in line with economic activity and the attendant narrowing of the output gap, which will induce greater pass-through of rising production costs to retail prices.

In forming economic projections for the next eight quarters, the MPC reviews the key assumptions underlying the Bank of Thailand macroeconometric model. These projections, which incorporate the MPC's judgment, are presented in the form of fan charts. The fan charts reflect risks associated with a range of events and are constructed conditioning on the assumption that the policy interest rate remains at the prevailing level of 1.75 per cent per annum from 2010 Q3 to 2012 Q3. This level of the policy rate is higher than that in the previous *Report* and is consistent with the MPC's policy decisions on 25 August and 20 October 2010.

Forecast assumptions

In forming economic and inflation forecasts for the next eight quarters, the MPC conditions the projections on the most plausible assumptions on various external factors, including foreign economic activities and financial conditions, world commodity prices, and fiscal projections. These assumptions are summarized below.

International economic and financial conditions

Thailand's major trading partner economies expanded more robustly in 2010 Q2 than previously projected. This was due to higher-than-expected growth in the euro area, Japan, and Asia despite the unexpected delay in the US economic recovery. In the most likely scenario the major trading partners are expected to continue to expand throughout the remainder of the year but at a slower pace. Risks surrounding the baseline projection, judged to be greater than previously assessed, are due to uncertainty in various elements in economic policy implementation by developed economies. Overall, thanks to the better-than-expected 2010 Q2 outturn, the MPC revises up the assumption on economic growth of trading partners for 2010 and keeps the same growth path for 2011.

With the US economy recovering markedly more slowly than anticipated, the MPC revises down the US growth projection for the entire projection period.

The **US economy** grew at an annual rate of 1.7 percent in 2010 Q2 over the previous quarter, which was weaker than expected. This softening was due to the slow pace of improvement in production, housing market activity, and private spending that was held down by the fragile recovery in the labour market and the waning of fiscal stimulus designed to boost consumption. Going forward, the MPC expects the US economy to show positive momentum, as private investment starts to rebound following a rise in domestic and overseas orders, a surge in imported raw materials, and an anticipated additional fiscal stimulus package. However, due to a deceleration in private inventory investment and the sluggish improvement in the labour market, the MPC revises down the US growth projection for the entire forecast horizon.

US monetary policy is expected to start tightening gradually beginning 2011 Q3.

The Federal Open Market Committee (FOMC) decided to keep the Fed funds rate at 0 to 0.25 per cent per annum on 21 September 2010 as well as to maintain the size of the Federal Reserve's holdings of securities at the prevailing level. The latter policy directive can be achieved by reinvesting principal payments received from the redemption of government agency bonds, such as those of Freddie Mac and Fannie Mae, in longer-term Treasury securities. In light of the weaker-than-expected economic recovery, the MPC expects the Fed funds rate to remain within the target range of 0 to 0.25 per cent before rising to 0.5 per cent in 2011 Q3 and increasing by 25 basis points in each subsequent policy meeting. Furthermore, in order to support the continuity of economic recovery, the FOMC is expected to reintroduce quantitative easing in 2010 Q4.

Given the better-than-expected economic recovery and favourable outcomes of the stress tests, the MPC revises up the euro area growth projection throughout the entire forecast period.

The **euro area** economy expanded quarter-on-quarter at a higher-than-expected rate of 1.0 per cent in 2010 Q2. Latest economic indicators signalled continuous improvements in production, exports, and private consumption especially in Germany. In addition, results from stress tests, designed to reassure investors over the health of Europe's financial sector, revealed better-than-expected results. Another encouraging sign was the abating sovereign debt crisis problem in PIIGS economies. With stronger economic developments in the euro area relative to previous estimation, the MPC thus raises the growth projection for the euro area over the entire forecast period. However, risks to growth remain, especially those related to the uncertain effects of fiscal consolidation in 2011.

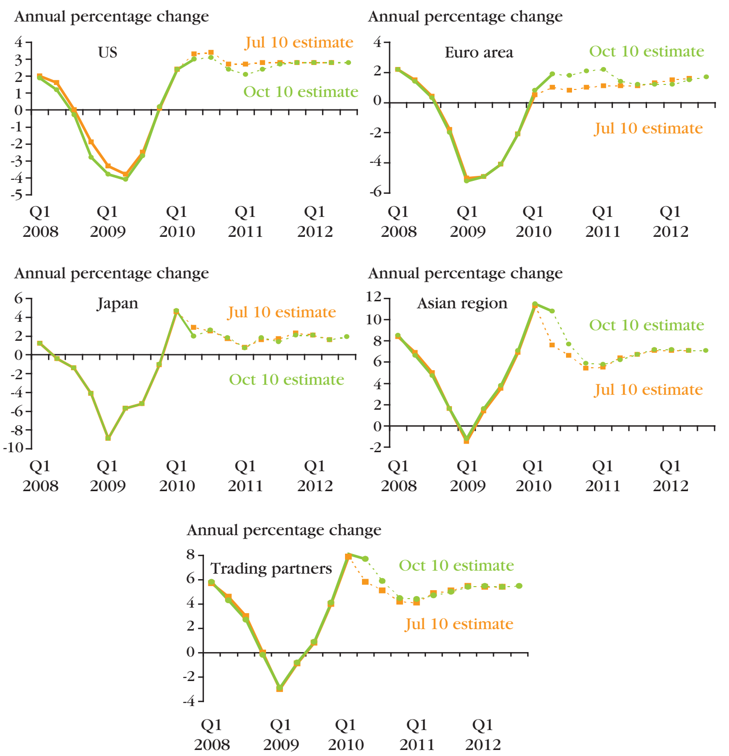
Given the projected slowdown of exports owing to the continuing trend of yen appreciation, the MPC revises down Japanese economic growth for 2011.

The **Japanese** economy expanded by 0.4 per cent quarter-on-quarter in 2010 Q2, close to the anticipated pace in the previous *Report,* on account of a sharp rebound in exports. However, given a drag from the sluggish recovery of the US economy and continued appreciation of the yen, the MPC expects the Japanese economy to grow at a slower pace than previously anticipated, and therefore revises down Japan's growth projection over the entire forecast horizon.

Asian economies continued to expand robustly. The growth rate for 2010 Q2 was much higher than previously anticipated, due mainly to the improvement in domestic demand and robust exports, both of which should lend support to further economic activity albeit not as robustly as in the first half of the year. In light of the 2010 Q2 outturn, the MPC thus revises up the growth projection of the Asian economies for this year, while assuming the same growth path for 2011.

The MPC revises up the projection of Asian economic growth for 2010 in light of the stronger-than-expected outturn in the second quarter.

Chart 5.1 Assumptions on trading partners' growth



Source: Bank of Thailand projection

The MPC expects regional currencies to appreciate against the US dollar more than previously assessed due to better prospects for economic recovery in Asia relative to those in industrialized economies and the attendant capital flows into the region.

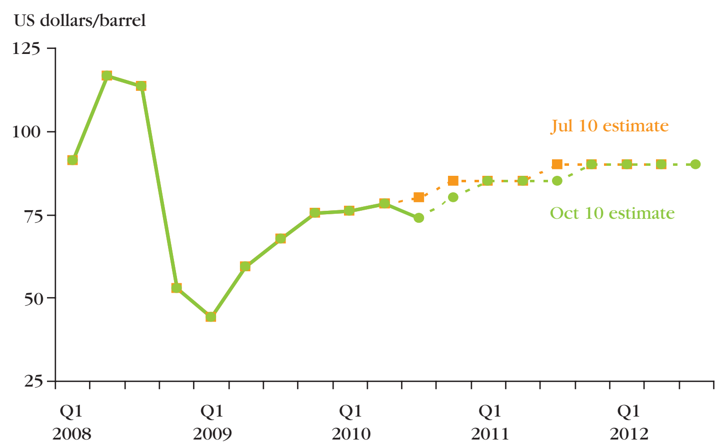
Given the US economic slowdown and better prospects for economic recovery in Asia relative to industrialized countries, Asian economies will likely experience continued capital inflows into regional equity and bond markets. As a result, Asian currencies are expected to appreciate against the US dollar to a greater extent than previously anticipated throughout the projection period.

World commodity prices

The price of Dubai crude is revised down slightly throughout the projection period.

The price of Dubai crude is revised down slightly from the previous projection, mostly owing to the lower-than-expected price in 2010 Q3 as well as the fragility of the US economic recovery. However, the fundamentals underpinning the oil market remain largely unchanged. While global demand for crude oil continues to rise in line with the global economic recovery, especially in non-OECD countries such as China and India, supply remains abundant with OPEC's spare capacity and crude oil inventory remaining high.

Chart 5.2 Assumption on Dubai oil price



Source: Bank of Thailand projection

On the whole, the MPC projects the average Dubai crude price for 2010 and 2011 at 77.0 and 86.3 dollars per barrel, lowered from the previous forecasts of 79.8 and 87.5 dollars per barrel, respectively.

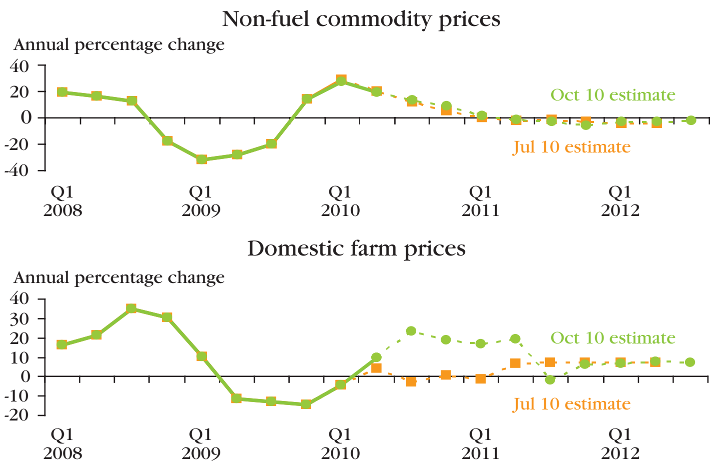
Non-fuel commodity prices for 2010 are revised up mainly from the upswing in prices of food and beverages due to unfavourable climate conditions and natural disasters. For 2011, the prices will edge lower more than anticipated as a result of the strong base effect. This outlook is consistent with the IMF's projection of a substantial drop in prices of agricultural raw materials and beverages from this year.

Non-fuel commodity prices in 2010 are projected to pick up at a pace faster than previously assumed but slow down more in 2011.

Domestic farm prices, particularly prices of vegetables and fruits as well as eggs and dairy products, turned out much higher than expected in 2010 Q3 due to adverse climate conditions. Going forward, limited supply from the world's major rice exporters, such as Vietnam and Pakistan, should drive up prices above the previously projected trend starting from the second half of this year through 2011. The MPC thus

Domestic farm prices are revised up throughout the projection period due to adverse climate conditions.

Chart 5.3 Assumptions on commodity prices



Source: Bank of Thailand projection

revises domestic farm prices up throughout the projection period, with this year's rate of increase higher than next year's owing to the inclement weather in 2010 Q3.

Fiscal Expenditure

The MPC projects no significant change in government spending from the previous assumption.

The MPC expects government spending to remain largely unchanged compared with the previous projection throughout the forecast horizon.

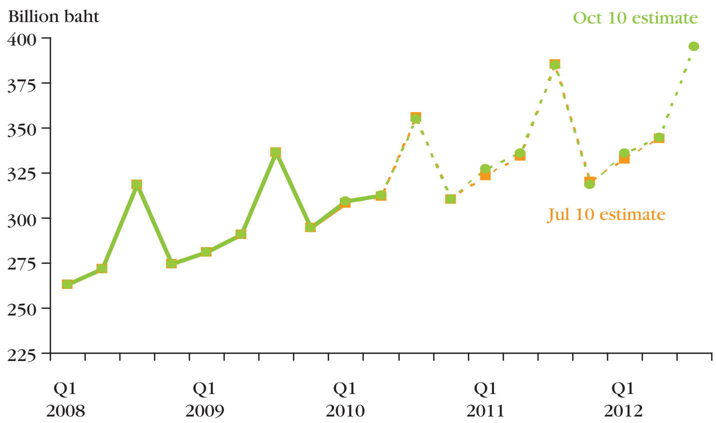
Table 5.1 Detailed assumptions on public sector expenditure

Unit: Billion baht	As of July 2010		As of October 2010	
	Fiscal year 2010	Fiscal year 2011	Fiscal year 2010	Fiscal year 2011
General government consumption	1,270.9	1,353.1	1,271.3	1,357.6
Public investment	616.4	638.5	598.9	635.8
Total	1,887.3	1,991.6	1,870.2	1,993.4

Public consumption is revised up slightly for fiscal years 2010 and 2011, while investment spending is revised down.

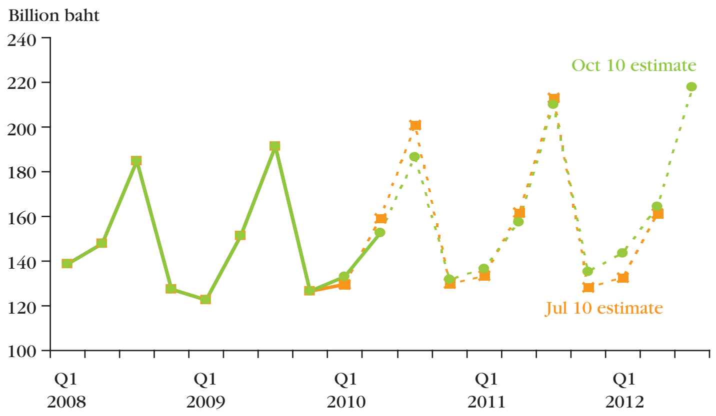
Government spending for fiscal year 2010 is revised down as a result of delayed disbursement by state enterprises. This reduction in impetus is more than offset by a projected increase in government consumption following a retrenchment of transfer payments. For fiscal year 2011, government spending will be slightly higher than previously estimated. This upward revision is due to higher disbursement of consumption spending in accordance with the government's target. However, the increase in government consumption will be partially offset by a downward revision in investment expenditure by state enterprises, as inferred from the capital expenditure budget approved by the Cabinet on 21 September 2010. As a result, overall public expenditure for fiscal year 2011 is revised slightly upward.

Chart 5.4 Assumption on general government consumption
(at current prices)



Source: Bank of Thailand projection

Chart 5.5 Assumption on public investment
(at current prices)



Source: Bank of Thailand projection

Minimum wages

The assumption on the daily minimum wage for the Bangkok Metropolitan Area is unchanged from the previous projection at 206 baht for 2010 but raised to 213 baht for 2011. This minimum wage projection is in line with the inflation trend and economic activity going forward.

The minimum wage for 2010 is unchanged but is assumed to increase next year.

Inventory accumulation

The MPC assumes that this year businesses will accumulate more inventories compared with the previous projection partly because of a large amount of gold imports in the third quarter. Accordingly, the year-on-year contribution of inventory accumulation to GDP growth is expected to be slightly greater than assumed in the previous *Report*. Businesses are expected to continue building inventories next year in accordance with the positive growth outlook.

Output and inflation projections

Output projection

Thailand's economic fundamentals remained solid, as attested by the ongoing and stronger-than-expected growth momentum even in the face of the political unrest in 2010 Q2. The expansion of economic activity in the second quarter was attributable to the rapid expansion in merchandise exports following the global economic recovery especially in Asia and emerging market economies. Meanwhile, private sector spending also expanded on both quarter-on-quarter and year-on-year bases. Private consumption, especially on durable goods, grew on the back of strong labour market conditions, high farm income, low inflation, expanding consumer credits, as well as robust consumer confidence that was not substantially weakened by adverse political situation. At the same time, private investment sustained its strong momentum following improved economic conditions, elevated capacity utilization, and growing investor sentiment. Government spending also continued to provide impetus to the economy.

Economic indicators related to both production and spending for the first two months of 2010 Q3 signalled that economic activity was slowing down to its normal pace. This was reflected by a moderation in manufacturing production especially in export-oriented industries, in line with softening merchandise exports owing to weakening external demand. Nonetheless, private sector spending continued to drive growth robustly in this quarter. Private consumption would still benefit from similar supporting factors as in the preceding quarter, and private investment would continue to maintain its momentum on the back of expansion in consumption and exports.

Details of the MPC's projections of key GDP components for the next eight quarters are as follows.

Private consumption and investment will grow faster than previously projected throughout the forecast period.

Private consumption for 2010 will grow at a pace stronger than previously projected owing mostly to the unexpected substantial gains in the second quarter. This sharp pickup demonstrates that the impact of the political unrest was transient and did not impair consumer sentiment as much as previously assessed, as reflected in the resilience of durable goods consumption. For 2011, investment and export momentums that are expected to carry over from this year, together with solid economic fundamentals, should work to sustain consumer outlays to grow faster than the previous projection. Other supporting factors include rising consumer sentiment, positive employment prospects, and further advances in incomes thanks to rising farm income due to surging major crop prices, higher private and public sector wages following the upward adjustment of minimum wages and government salaries, and tourism income that will recover after domestic political tensions dissipate. This view is consistent with the Bank of Thailand's surveys of businesses, which report an increase in confidence in income and employment prospects. Moreover, consumers also benefit from the low interest rates that will facilitate further consumer credit expansion.

Private investment for 2010 will grow faster than previously projected despite the political unrest on account of the preliminary estimate for the third quarter that is better than expected as shown by latest indicators for the first two months of the quarter. The momentum of private investment will carry into next year, thanks in part to the recovery momentum since the second half of 2009 on the back of pent-up investment demand during the period with persistent domestic political uncertainty starting back in 2006. Furthermore, the continued investment momentum will be supported by strong prospects for private consumption and exports, which will prompt firms to invest further in order to accommodate domestic and external demand growth. Other supporting factors include tightening capacity utilization in several industrial sectors, improving investor sentiment, and a recent take-off and continued growth in business loans thanks in part to accommodating monetary conditions.

Fiscal impetus will remain largely unchanged from the previous projection.

Government spending will help stimulate the economy to an extent similar to the previous projection. Total government spending for the whole of 2010 is expected to decline slightly mainly from the delayed disbursement by state enterprises. Fiscal impetus will be more forward in 2011, compared with the previous projection, as more transfers from the central government will be directed to investment spending by local governments. Meanwhile, despite the speedup in government disbursement to meet the target, the public consumption in real terms is expected to decrease, as prices of goods and services tend to rise in accordance with acceleration in the overall price level.

Exports will moderate in the second half of 2010 following a slowdown in external demand but will continue to expand in 2011.

Exports of goods and services for 2010 will grow slightly faster than previously projected owing mostly to a stronger-than-expected upswing in the first half of the year. While exports of goods softened in line with the slowdown in trading partners' economies especially the developed ones, exports of services have started to gain traction thanks to the rebound in the number of tourists since the end of the second quarter. For 2011, exports will expand on the back of the strengthening global economy, as structural problems in developed countries are expected to be resolved to a certain extent by then.

Imports will be strong throughout the projection period in line with strengthening exports and domestic demand.

Imports of goods and services for 2010, despite slowing in the second half of the year in line with softening export momentum, will grow faster than previously projected owing to stronger-than-expected domestic demand. Imports will continue to grow in 2011 in line with strong exports and domestic spending.

With imports growing faster relative to exports, the MPC anticipates a gradual decline in the current account surplus (including reinvested earnings).

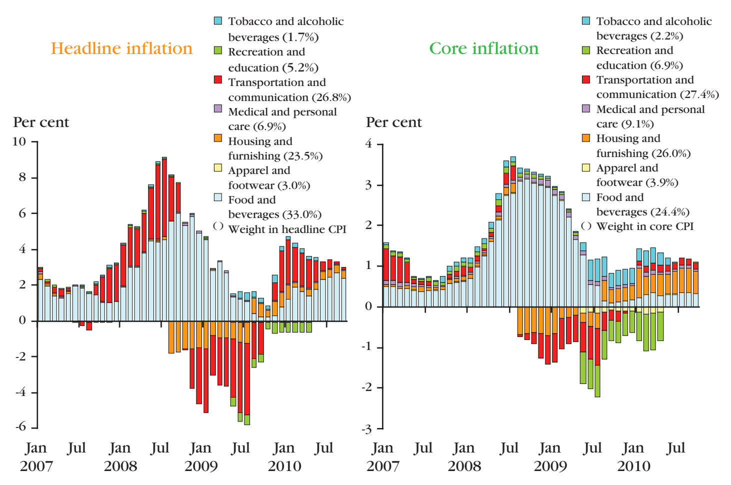
Inflation projection

Core inflation over the year-earlier period picked up in 2010 Q3 owing to the dissipating drag from the government's tuition exemption after the programme had been in effect for a year. Headline inflation stayed close to the previous quarter, as reduced pressure from energy prices was roughly offset by rising core prices and fresh food prices. However, excluding the effects of government subsidies, the underlying price pressure remained unchanged from the preceding quarter. The willingness of businesses to cooperate with the government in keeping prices unchanged until the end of the third quarter also contributed to subdued inflation readings.

Inflation pressure will remain low for the rest of 2010, before rising in 2011 in tandem with the continued economic growth and domestic farm prices.

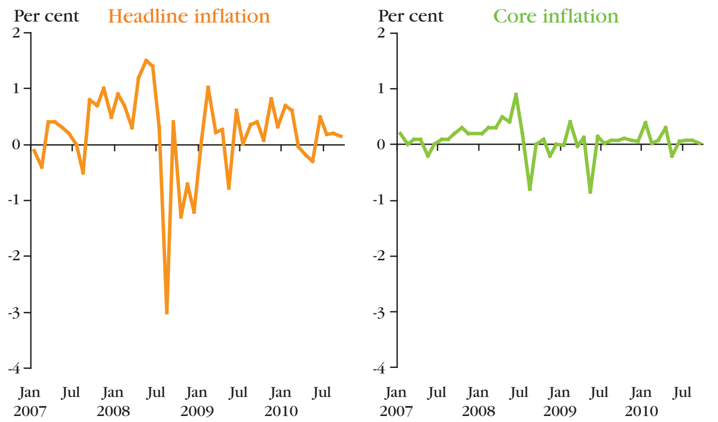
For the remainder of the year, the MPC expects underlying inflation pressure to remain low as assessed previously. Although some upward pressure may build up given the economic growth momentum, firms' ability to raise prices will be constrained by a high degree of competition. Accordingly, core inflation for 2010 is projected to remain close to the previous forecast. Headline inflation, on the other hand, will edge up due to the faster-than-expected increases in fresh food prices in the third quarter. The overall price

Chart 5.6 Contribution to headline and core inflation



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

Chart 5.7 Month-on-month seasonally-adjusted headline and core inflation



Source: Calculations by Bank of Thailand

level will continue on an upward trend given adverse climate conditions which affect agricultural supply in the fourth quarter. While fuel and raw material prices, restrained by the fragile global recovery that is underway, can keep costs down to a certain extent, the overall price level is overwhelmed by the upward pressure coming from fresh food prices.

Core inflation projection remains close to the previous assessment, while headline inflation forecast edges higher throughout the projection period.

The MPC projects core inflation to pick up in 2011 in line with the upward revision of the minimum wage assumption, demand pressure from the economic growth, and the diminishing output gap which will induce greater pass-through of costs to prices. Headline inflation is expected to increase as well, following rising core prices as well as agricultural prices. In addition, the expected expiration of the government's cost-of-living subsidy measures will also contribute positively to inflation next year. This inflation outlook is consistent with survey measures of inflation expectations that are on the rise.

Assessment of risks

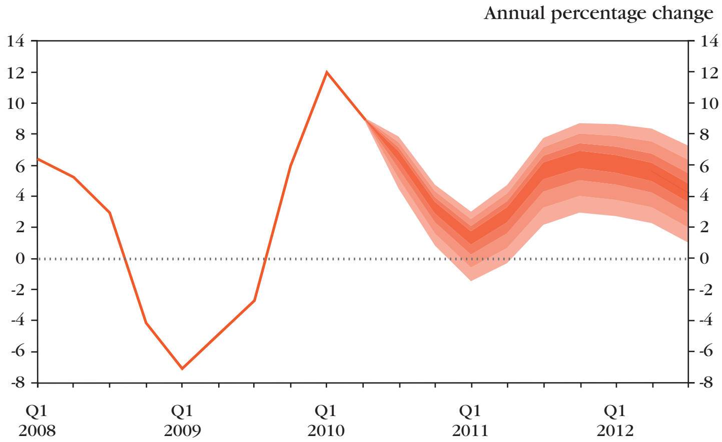
The above projection for output and inflation is conditioned on the most likely forecast assumptions as well as the assumption that interest rates remain unchanged from the prevailing levels. Nevertheless, the following external and domestic risks can potentially bring about deviations from the baseline projection.

Risks to growth

Downside risks are mostly from the external front. The MPC takes particular note of the delayed recovery of trading partners' economies, especially when the advanced economies are potentially facing structural problems that can take longer to resolve than assessed in the baseline scenario. Such problems include elevated and persistent unemployment in the US economy as well as public debt problems and the fragile health of financial institutions in certain European countries. A delayed solid recovery going forward will weaken demand for Thai exports and cause income and domestic spending to fall below the baseline scenario. Another major downside risk is the volatility of international capital flows due to the uneven global economic recovery that has the potential to create domestic macroeconomic imbalances. Unless the private and public sectors succeed in coping with this heightened uncertainty in the global economic landscape, output risks falling below the baseline projection.

Upside risks that may cause growth to rise above the baseline scenario include an early resolution of the unemployment and public debt problems in major trading partners' economies. This could expedite the global recovery and help boost private sector confidence, thus stimulating exports and domestic spending.

Chart 5.8 GDP growth forecast



Note: The fan chart covers 90 per cent of the probability distribution

The fan chart for GDP growth is skewed downwards over the projection period, reflecting downside risks on the external front.

Overall, the MPC judges that uncertainty surrounding the growth projection remains close to that in the previous *Report,* with downside risks outweighing those on the upside. The fan chart for economic growth is roughly as wide as in the previous projection and is skewed downwards throughout the forecast horizon.

Risks to inflation

Upside risks come from pressures from both demand and supply sides. Supply-side price pressure is due to (1) tight crude oil supply given hurricanes in the Gulf of Mexico and sanctions on Iran by Western nations; (2) a serious damage on agricultural supply by unfavourable weather; and (3) a large increase in the minimum wage for the Bangkok Metropolitan Area. Demand-side price pressure may also arise if the pace of economic growth turns out stronger than assessed.

Downside risks to inflation are mainly from the following factors: (1) oil prices may turn out lower than estimated due to a slower global economic recovery; (2) prices of agricultural products may fall below the baseline if weather conditions turn out to be less severe than expected; (3) domestic demand may be more subdued than in the baseline scenario; and (4) the government may extend part of the subsidies beyond the scheduled termination at the end of 2010.

The fan charts for headline and core inflation are skewed upwards towards the end of the forecast horizon.

Chart 5.9 Headline inflation forecast

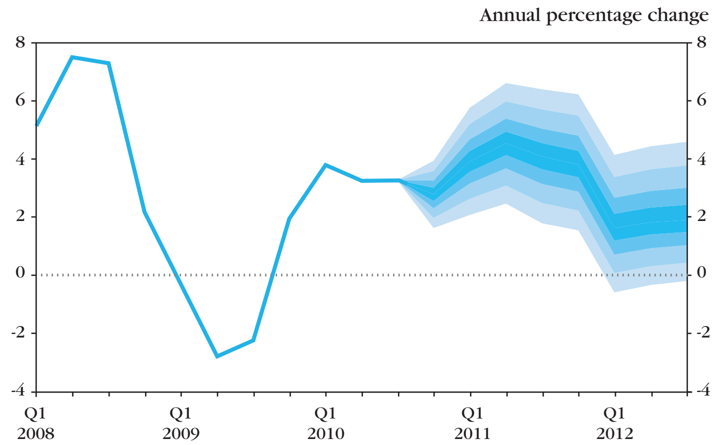
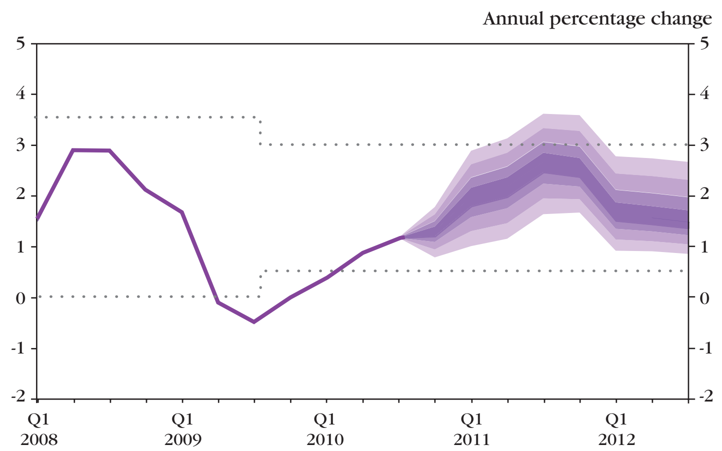


Chart 5.10 Core inflation forecast



Note: The fan chart covers 90 per cent of the probability distribution

On the whole, the MPC views the upside risks to inflation as outweighing the downside risks next year. Accordingly, the fan charts for both core and headline inflation are skewed upwards towards the end of the projection period.

Projection ranges and probabilities

Output growth for 2010 and 2011 is projected to be in the ranges of 7.3-8.0 and 3.0-5.0 per cent, respectively.

With regard to the probability distribution of the growth forecast for 2010 and 2011, obtained by averaging the fan chart's darkest forecast ranges over the four quarters of each year, the MPC projects this year's output growth to be in the range of 7.3-8.0 per cent, up from the previous range of 6.5-7.5 per cent. For 2011, output growth is projected be in the range of 3.0-5.0 per cent similar to the previous forecast.

Table 5.2 Probability distribution of GDP forecast

Unit: %	2010		2011				2012		
	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
> 9	0	0	0	0	1	3	3	2	0
8 - 9	3	0	0	0	3	8	7	5	1
7 - 8	20	0	0	0	9	16	15	11	4
6 - 7	33	0	0	0	17	21	20	18	10
5 - 6	26	3	0	3	20	19	20	21	16
4 - 5	13	14	1	10	18	15	16	18	20
3 - 4	4	28	4	20	14	9	10	13	19
2 - 3	1	26	16	22	9	5	5	7	14
1 - 2	0	17	25	19	5	2	2	3	8
0 - 1	0	8	23	13	2	1	1	1	4
(-1) - 0	0	3	16	7	1	0	0	0	1
< (-1)	0	1	15	6	1	0	0	0	0

Headline inflation for 2010 and 2011 is projected to be in the ranges of 2.8-3.8 and 3.0-5.0 per cent, respectively

Headline inflation for 2010 is projected to be in the range of 2.8-3.8 per cent, with an upward revision of the lower bound of the previous 2.5-3.8 per cent interval. For 2011, headline inflation is projected to be in the range of 3.0-5.0 per cent, up from the previous forecast of 2.5-4.5 per cent.

Table 5.3 Probability distribution of headline inflation forecast

Unit: %	2010	2011				2012		
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
> 7	0	0	2	2	2	0	0	0
6 - 7	0	3	10	7	5	0	0	1
5 - 6	0	13	23	17	14	1	2	3
4 - 5	4	30	31	27	25	5	7	8
3 - 4	33	32	23	26	27	13	16	17
2 - 3	49	17	9	15	18	23	24	24
1 - 2	13	4	2	5	7	27	25	24
0 - 1	1	0	0	1	2	19	17	15
(-1) - 0	0	0	0	0	0	9	6	6
< (-1)	0	0	0	0	0	3	2	1

Core inflation for 2010 and 2011 is projected to be in the ranges of 0.5-1.3 and 2.0-3.0 per cent, respectively, unchanged from the previous forecast.

Core inflation, on the other hand, is expected to be within the ranges of 0.5-1.3 per cent in 2010 and 2.0-3.0 per cent in 2011, unchanged from the previous projection.

Table 5.4 Probability distribution of core inflation forecast

Unit: %	2010	2011				2012		
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
> 3.0	0	3	7	27	26	4	4	4
2.5 - 3.0	0	14	20	32	31	11	11	10
2.0 - 2.5	1	30	32	26	29	23	22	20
1.5 - 2.0	23	31	26	12	12	32	31	29
1.0 - 1.5	59	17	11	3	2	23	24	26
0.5 - 1.0	17	4	3	0	0	6	7	9
< 0.5	1	1	0	0	0	1	1	1

Forecasts by research houses

Forecasts of output growth for 2010 from various research houses, as polled by Reuters (Thailand) and compiled by the Bank of Thailand, were revised upward following the release of the second-quarter GDP by the National Economic and Social Development Board (NESDB).

Averages of inflation forecasts, on the other hand, have not changed significantly from the previous survey.

Table 5.5 GDP growth forecasts by various research houses

	(14 Jul 10)[1/]		(14 Oct 10)[1/]	
	2010	2011	2010	2011
Capital Nomura	6.0	4.8	7.0	4.8
Kasikorn Research	5.0	3.5	7.5	4.0
Standard Chartered	4.1	4.5	6.3	4.0
ING	5.8	5.2	7.3	5.2
HSBC	6.1	4.7	7.9	5.3
UOB	5.5	4.7	5.5	4.7
SCB Economic	5.2	4.4	7.0	4.0
TISCO Securities	5.2	4.0	7.4	3.5
Barclays Capital	6.0	4.0	8.0	4.0
IMF	7.0	4.5	7.5	4.0
Average	5.6	4.4	7.1	4.4
NESDB	3.5-4.5[2/]	n.a.	7.0-7.5[3/]	n.a.

[1/] Data by Reuters and calculation of average figures by Bank of Thailand.
[2/] Estimated on 24 May 2010 when GDP figures for 2010 Q1 were released.
[3/] Estimated on 23 August 2010 when GDP figures for 2010 Q2 were released.

Table 5.6 Headline inflation forecasts by various research houses				
	(14 Jul 10)[1/]		(14 Oct 10)[1/]	
	2010	2011	2010	2011
Capital Nomura	5.1	4.0	3.8	4.5
Kasikorn Research	3.5	3.1	3.4	3.3
Standard Chartered	3.2	3.7	3.2	3.7
ING	3.0	2.7	3.2	2.0
HSBC	3.5	3.7	3.5	3.6
UOB	3.7	3.5	3.7	3.5
SCB Economic	3.0	3.0	3.3	3.1
TISCO Securities	3.3	4.0	3.5	3.4
Average	3.5	3.5	3.5	3.4
NESDB	3.0-4.0[2/]	n.a.	3.0-3.5[3/]	n.a.

[1/] Data by Reuters and calculation of average figures by Bank of Thailand.
[2/] Estimated on 24 May 2010 when GDP figures for 2010 Q1 were released.
[3/] Estimated on 23 August 2010 when GDP figures for 2010 Q2 were released.

6. Conclusion

Despite the political unrest, economic data for 2010 Q2 clearly reflected the solid fundamentals underlying the Thai economy. The positive growth momentum was primarily driven by (1) rapid growth in merchandise exports thanks to the robust global recovery, and (2) strong expansion in private spending consistent with favourable employment conditions and rising farm income.

The MPC projects a continued expansion of economic activity. Output growth for 2010 is estimated to be higher than previously estimated, primarily thanks to stronger-than-expected exports and private sector spending in the second quarter. Private spending will assume a greater role in driving the Thai economy starting the second half of this year onwards, as the fragile global economic recovery weighs on exports. Meanwhile, inflationary pressure is expected to remain subdued for the rest of the year, before rising gradually next year in line with rising supply and demand pressures as the economy gains further traction. The expiration of the government's cost-of-living subsidy measures also contributes to higher readings of inflation next year.

With respect to monetary policy, the MPC concluded in the meeting on 25 August 2010 that the forward momentum of the Thai economy would be sustained and price pressures were expected to rise in 2011, potentially causing core inflation to rise above the upper band of the target range. The MPC therefore raised the policy interest rate by 25 basis points to 1.75

per cent per annum. In the following meeting on 20 October 2010, the MPC observed an incipient slowdown in the global recovery, together with heightened risks in the global economy and financial markets. Accordingly, the MPC deemed it necessary to assess potentially adverse impacts on the Thai economy, thereby keeping the policy interest rate unchanged at 1.75 per cent per annum before considering any further actions.

The neutral rate of interest: concept and calculation

As economic recovery in a number of countries increasingly gained momentum after the global financial crisis, central banks have started to raise their policy interest rates towards "normal" levels. However, what is the appropriate level of the policy interest rate that supports output growth and price stability? This is an important question for monetary policy makers.

The neutral interest rate, usually expressed in real terms, may be defined as the level of the short-term interest rate that keeps the economy at its potential level without inducing inflationary pressures. This level of the interest rate therefore reflects the neutral monetary policy stance that is neither too easy nor too tight. A level of the inflation-adjusted policy rate below the neutral rate thus indicates an accommodative monetary policy, which helps to stimulate economic growth and consequently puts pressures on prices. In contrast, a real policy rate above the neutral interest rate slows down economic growth and as a result relieves inflationary pressures. One can thus compare the neutral interest rate with the policy rate to gauge the monetary policy stance at any instant.

Measuring the natural rate of interest is not an easy task, since the neutral rate can vary over time depending on (1) shocks that hit the economy at any moment in time and (2) the evolution of the long-term structure of the economy. There are several estimation approaches, although each has its own set of assumptions and limitations. A selection of methodologies is presented below.

The first method is to simply interpret the historical average of the real interest rate as a measure of the neutral rate. This approach assumes that the vicissitudes of business cycles in the past have resulted in corresponding monetary policy stances that, albeit subject to fluctuations from short-term shocks, are balanced out in the sample. However, this measure is clearly only a rough indicator. Even the steady-state neutral interest rate can vary if there is a change in structural fundamentals of the economy.

The second method is to use the Taylor rule[1/], which describes the policy interest rate as a response to deviations of inflation and output from their respective target levels. Here, the natural interest rate over the long run can be inferred as the prevailing rate when inflation is at the inflation target and output is at its potential. Among many difficulties of this approach is the fact that the output gap itself is unobserved and must be estimated. Moreover, unless further assumptions are made, this estimation approach only gives the historical estimate of the natural rate of interest and, as is the case with the first approach, is therefore of limited use if one seeks a trajectory of the natural rate going forward.

The third method is to refer to the market-implied path of the future policy interest rate. Assuming that the market correctly expects the policy rate to approach the neutral level in the long run, this method uses information from the government debt market to calculate the implied forward curve[2/], which may be interpreted as representing the expected path of short-term rates at each specific point in the future. One difficulty with this methodology is that, as the implied forward curve is devined from government bond yields, the estimated neutral rate may be inadvertently driven by investors' perception of risks in the bond market. The presence of large and volatile risk premiums can invalidate the forward rates as good proxies for market expectations of future policy rates.

Relying on the natural rate of interest as an exclusive guide in the conduct of monetary policy is not advisable. A precise estimate of the natural rate is difficult to obtain, as it constantly changes in light of real shocks and the evolving structure of the economy. In this way, the natural rate of interest is exogenously determined. Furthermore, it is not desirable to always target the policy interest rate at the neutral real interest rate at every point in time, because gearing monetary policy to respond to factors extraneous to developments in the economy–in particular, inflation–will potentially fail to bring about the most efficient economic outcome. Instead, the natural rate of interest can be used as an approximate guide to determine the monetary policy stance to supplement many other economic indicators in the deliberation of monetary policy.

1/ $i_t = i^* + \alpha(\pi_t - \pi^*) + \beta(y_t - y^*) + \varepsilon_t$ where i_t = policy interest rate, i^* = equilibrium interest rate, $\pi_t - \pi^*$ = deviation of inflation from the target, $y_t - y^*$ = output gap.

2/ For more details, see "Assessing Inflation Expectations," *Inflation Report*, July 2008 (pages 30-31)

Report: "Economic/Business Information Exchange Programme between the Bank of Thailand and the Business Sector"

As of 30 September 2010

Overall summary

According to the Economic/Business Information Exchange Programme between the Bank of Thailand and 186 firms nationwide in 2010 Q3[1/], overall business conditions showed continued growth following an expansion of domestic demand due to rising farm income, low unemployment, and expansion of credit by financial institutions, in accordance with strengthened consumer and business sentiments. Going forward, overall business activities were expected to grow, as public investment crowds in private investment. However, difficulties in price adjustments owing to intense competition remained, while oil prices, raw material costs, and wages were on the rise. Risks to the business outlook included the appreciation of the Thai baht and the uncertainty in the global economy.

- **Private consumption** continued to expand from the previous quarter. Sales of household products and durable goods such as automobiles, electrical appliances, and furniture remained satisfactory. The strong growth followed the ongoing economic recovery, rising farm income given higher crop prices, various marketing schemes, expansion in consumer credit by financial institutions, and continuously improving consumer confidence.
- The **real estate market** slowed down from the previous quarter owing importantly to the expiration of the stimulus measures in June 2010. In the third quarter, newly-launched condominium projects constituted a greater share in the market, particularly those in medium- and low-price segments and those located near the mass transit system. This was in line with greater demand by new workforce entrants and by investors seeking higher returns in the low interest rate environment.
- **Production and exports** increased compared with the previous quarter. Nonetheless, production of some products, namely, hard disk drives and electronic parts, was moderating towards normal levels after previously expanding significantly owing to inventory build-up in the previous quarters. Exports continued to increase following a high level of orders of automobiles, electrical appliances, and processed food.
- **Private investment** continued to increase from the previous quarter consistently with improved economic conditions. Investment in automobiles, electronics, and electrical appliances industries were for capacity expansion and efficiency enhancement. Increased investment activities were in line with a rise in imported capital goods.
- **Employment conditions** also improved from the previous quarter. Trade, construction, and service sectors absorbed some underemployed workers from the agricultural sector during the drought period. However, the manufacturing sector still experienced labour shortages due to a mismatch between required and actual educational attainment of job applicants as well as the preference of the new generation of labour unwilling to work in difficult, unhygienicn, and high-risk jobs.
- **Cost of production** tended to increase from the rising prices of oil and raw materials, especially agricultural commodity prices owing to supply shortages following drought and a pest outbreak. Moreover, wages tended to increase in line with labour market tightness.
- **Credits** granted to businesses increased from the previous quarter due to growing demand for working capital, in particular by exporters of electronics and agricultural products. Household credit continued to expand, driven by an increase in housing and hire purchase loans for vehicles. While financial institutions competed more on terms and conditions of loans, credit standards remained almost unchanged from the previous quarter. The ratio of non-performing loans to total loans was on a downward trend.
- **Business constraints and risks.** While the issue of political in stability has substantially subsided, firms expressed concerns over rising production costs. Oil prices, raw material costs, and wages tended to increase in the environment of difficult price adjustments owing to intense competition. Going forward, the appreciation of the Thai baht and the uncertainty in the global economy were perceived as risks to businesses.

[1/] Including responses from the business sentiment survey (about 520 business firms per month).