Inflation Report

January 2009

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:

Mrs. Tarisa	Watanagase	Chairman
Mrs. Atchana	Waiquamdee	Vice Chairman
Mr. Bandid	Nijathaworn	Member
Mr. Chakramon	Phasukavanich	Member
Mr. Ampon	Kittiampon	Member
Mr. Ammar	Siamwalla	Member
Mr. Praipol	Koomsup	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 0-3.5 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 Thai economy in 2008 Q3 exhibited a decelerating trend, in line with the MPC's assessment in the previous *Inflation Report* (October 2008). However, the slowdown in some components of GDP was larger than expected, particularly net exports. Notwithstanding the fact that the quantity of exports was close to that previously anticipated, the quantity of imports increased markedly. This was likely due to a miscalculation of economic conditions on the part of businesses, resulting in excessive orders of raw materials for production, and thereby leading to unusually high accumulation of inventories. Excluding these excessive inventories, private spending was the only engine of growth in this quarter. However, this driver of growth began to show signs of slowing down, particularly in private investment. Government spending declined compared to the same period in the previous year, signifying that the government's fiscal measures were unable to boost the economy in that period.

Table 1.1 GDP at 1988 prices

Unit: %Δyoy	2007	2007		2008		
		Q3	Q4	Q1	Q2	Q3
Domestic demand[1/]	**2.3**	**2.9**	**3.0**	**3.1**	**1.7**	**1.4**
Private consumption	1.6	1.9	1.9	2.7	2.5	2.6
Private investment	0.6	1.4	3.8	6.5	4.3	3.5
Public expenditure	6.9	7.4	6.8	0.5	-4.2	-3.9
Net exports of goods and services	**21.7**	**7.9**	**20.0**	**4.6**	**18.3**	**0.3**
Exports of goods and services	7.1	3.8	9.1	8.2	9.1	8.2
Imports of goods and services	3.4	2.7	6.0	9.4	6.9	10.5
Gross domestic product	**4.9**	**5.1**	**5.7**	**6.0**	**5.3**	**4.0**

Note: %Δyoy = percentage change from the previous year
[1/]Domestic demand excludes changes in stocks
Source: National Economic and Social Development Board

During the last quarter of 2008, risks to growth increased both from global and domestic factors. The drastic slowdown of the world economy adversely affected exports of Thai goods. Exports, both in terms of value and quantity, began to shrink compared to the same period of the previous year. The same phenomenon was observed in other countries in the region. In addition, political conflicts led to prolonged protests against the government which continued to intensify, culminating in the closure of two international airports between the end of November and early December. This incident led to a marked decline in the number of tourists during the peak season at the end of the year, and further weakened the fragile confidence of the private sector. Consequently, despite a significant decline in the price pressures given the fall in oil prices, which should have led to reduced production costs, coupled with the continued easing of monetary policy, the rise in the aforementioned negative factors led to a considerable weakening of the Thai economy in 2008 Q4, compared to the assessment in the previous *Report*. Moreover, there was a possibility that the economy would contract compared to the same period in the previous year, partly due to the unexpected contraction of receipts from tourism. As a result, the MPC assessed that the overall economy in 2008 would expand only at approximately 3.6 per cent, much lower than the forecast range of 4.3 - 5.0 per cent provided in the previous *Report*.

Going forward, oil prices were likely to remain at a fairly low level. Inflation should decline markedly, helping to maintain consumers' purchasing power. Accommodative monetary policy, and increased stability in the political situation following the formation of a new government in December 2008 should enable the government's stimulus measures to be more effective. All these factors would support economic growth to some extent. However, the momentum of economic growth in the latter part of the year was softer than expected, coupled with the prospects of major industrial economies which were likely to enter recession and would take some time to recover, and the significant weakening of economies in the region, the Thai economy was expected to expand at a very low rate until the second half of 2009.

The Thai economy in 2010 was expected to recover gradually in tandem with the global economy. Moreover, the effects of the government's stimulus measures in 2009 should help improve confidence and the investment climate, which in turn would stimulate private spending, particularly investment. The recovery of investment and exports, however, would require an increase in imports of capital goods and raw materials. Therefore, imports were expected to expand somewhat during this period, and as a result, the current account was expected to adjust slightly from a small surplus in 2009 to a minimal deficit or a close-to-balance level in 2010.

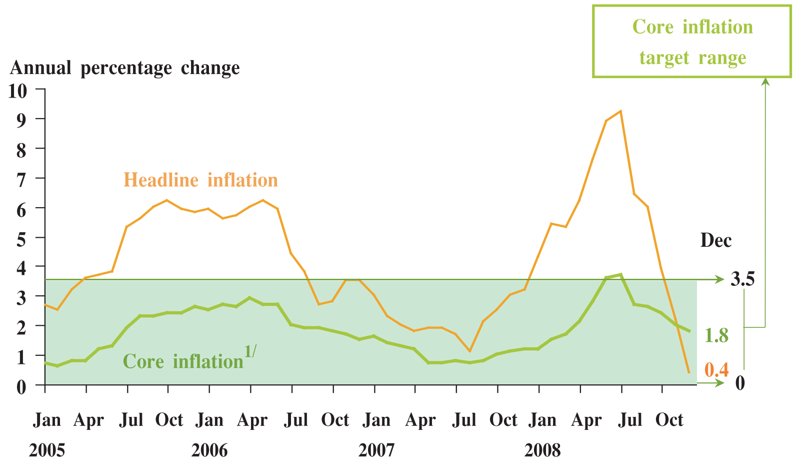
Given the aforementioned economic conditions and prospects, the MPC adjusted the forecast range for economic growth over the next 8 quarters down somewhat to between 0 - 2 per cent in 2009 and between 2 - 4 per cent in 2010, lower than the forecast in the previous *Report*. Reflecting the downside risks, which outweighed the upside risks, the fan chart is skewed downwards in both years. Crucial downside risks included the possibility of the world economy going into a deep recession for a longer period than assessed in the base case scenario, and a more drawn-out recovery as a result of a prolonged global financial crisis. Moreover, there was also the possibility that the government could not meet the target for budget disbursement to stimulate the economy, especially in the first 2-3 quarters of the 2009 fiscal year due to continued political uncertainty.

The impact of the economic slowdown in previous periods began to affect important sectors of the Thai economy, as reflected in lower business profits, in heightened risks to income and employment of households, as well as an increase in the delinquency rate for household credits - defined as loans 1 - 3 months past due. These fragilities would affect the position of the financial system in the future. As a result, financial institutions tightened their lending standards in line with the elevated risks to economic growth. This meant that the cost of borrowing for the business sector, which included a higher risk premium, was unlikely to decrease substantially, in spite of accommodative monetary policy. Given the fact that cost of funds which incorporated this higher risk premium could erode the ability of the business sector to service debts, the MPC deemed it crucial to closely monitor and assess the consequences of such development on the business sector.

Inflationary outlook and monetary policy

Price pressures continued to moderate in the second half of 2008, in line with lower oil prices and softer world economic conditions. The pass-through to consumer prices was lower amidst the slowdown of domestic demand. Moreover, the government's temporary measures to alleviate the public's cost of living through the exemption of certain

Chart 1.1 Consumer price index



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

utility charges and fees for certain types of public transportation helped reduce the public's concerns over the cost of living and helped to lower inflation expectations.

Going forward, the MPC assessed that price pressures were lower than anticipated in the previous *Report,* due to the softer trend of world oil prices than previously anticipated. Moreover, the lower-than-expected economic expansion made it more difficult to pass on costs to consumers. In addition, the government's measures to alleviate the public's cost of living were partially extended for 6 months. Together with lower inflation expectations, this should help reduce pressures for higher wage bargaining.

Headline inflation was likely to stay moderate, with likelihood of negative inflation during some periods of 2009, particularly during months when oil prices are much lower compared to those of the same period the previous year. Nevertheless, the MPC deemed that this trend did not signify deflation, as it did not reflect a broad-based decline in prices, but resulted directly from the swift reduction in oil prices. Moreover, headline inflation was not expected to remain negative for a prolonged period such that it would lead to a delay in private consumption. However, the MPC expected that both headline and core inflation would slowly increase in tandem with the economic recovery and the cumulative easing of monetary policy.

Based on the above analysis, the MPC adjusted the inflation forecast downwards over the upcoming 8 quarters with headline inflation ranging between -1.5 - 0.5 per cent in 2009 and between 1.5 - 3.5 per cent in 2010, while the range for core inflation was expected at 0.5 - 1.5 per cent in 2009 and at 1 - 2 per cent in 2010. The fan chart for headline inflation is skewed upwards throughout the entire forecast period, reflecting upside risks from rising oil prices. The fan chart for core inflation, on the contrary, is skewed downwards throughout the forecast period to reflect increasing risks to growth.

Chart 1.2 Core inflation forecast

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

Taking into consideration the conditions and trends of inflation as well as those of economic expansion, the MPC viewed that the overall risks to growth of the Thai economy going forward increased drastically due to both external and domestic factors. On the other hand, risks to inflation decreased markedly and were expected to remain moderate throughout 2009, thereby permitting the easing of monetary policy to support economic recovery. The MPC therefore lowered the policy interest rate by 1.00 per cent per annum during the meeting on 3 December 2008, and lowered the policy rate further by 0.75 per cent per annum during the meeting on 14 January 2009, leaving the current policy rate at 2.00 per cent per annum.

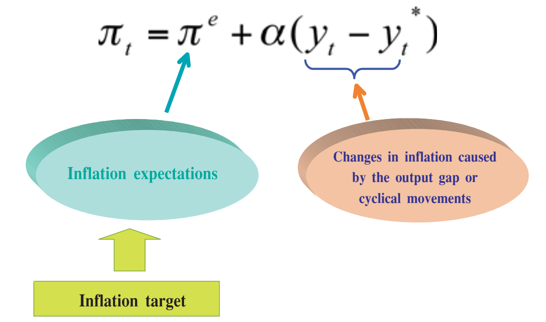
Setting an appropriate inflation target

One of the main objectives of monetary policy in countries around the world, regardless of regime, is to ensure price stability in the economy, which is defined as low and stable inflation. Price stability not only helps to protect the public's purchasing power or the future value of money from declining rapidly and continuously, but also helps to reduce uncertainty which could affect private consumption and investment decisions, in turn affecting the economy's potential output. Moreover, price stability helps to maintain price competitiveness of businesses in both domestic and international markets, making it a prominent factor supporting sustainable economic growth.

1. The importance of setting an inflation target

An explicit inflation target facilitates a central bank in achieving its price stability objective. Setting and announcing an inflation target which is clear and valid - that is, easy to communicate to the public, suitable to the economic structure, and achievable - together with a cautious approach to monetary policy decision-making by central bankers, would increase the credibility of monetary policy. In turn, the inflation target would help guide the public's inflation expectations. This can be explained by the expectations-augmented Phillips curve equation (Chart 1), where the inflation rate at time t (π_t) is comprised of 2 parts: the first relating to inflation expectations (π^e), and the latter relating to changes in demand pressure, which is determined by the economic cycle. Such demand pressure can be measured by the output gap, which is the difference between actual output (y_t) and potential output (y_t^*). Therefore, at any point in time, actual inflation could deviate from expected inflation via demand pressure, as determined by the economic cycle. However, such deviations should average near zero in the long run. As a result, the inflation rate in the long run will be determined by the public's inflation expectations. As a result, provided that the conduct of monetary policy under the inflation targeting regime is effective in guiding inflation expectations, the level of expected inflation and the actual level of inflation should remain within the announced inflation target range.

Chart 1 Expectations-augmented Phillips curve and the role of the inflation target



2. Important issues that need to be considered when setting an inflation target

In setting an inflation target which fulfills the primary objective of maintaining price stability, three important issues need to be considered, as follows.

2.1 Selecting the targeted price index: In theory, the targeted price index can be any price index that is representative of the public's cost of living. A possibility is the Consumer Price Index (CPI) or other price indices which are closely related to CPI, such as CPI excluding items with highly volatile prices; in the case of Thailand, this includes fresh food and energy. Such an index (which excludes items with volatile prices) would better reflect the true underlying trend of inflation as well as demand pressure, otherwise known as the second-round effect. These are important characteristics of a targeted price index, as monetary policy is usually aimed at taking care of demand pressures. In addition, the targeted price index should be easy to communicate and easily understood by the public. This should help enhance its effectiveness in guiding the public's inflation expectations.

2.2 Inflation target level: An issue that should be considered is the ability of people in various groups of the economy to adjust to changes in the price level, particularly retirees whose main income derives from interest income from savings, or fixed-income employees or labourers who have low bargaining power. Such groups can be particularly susceptible if the inflation target is set at a high level, as their income may not be able to catch up with inflation, subsequently eroding their purchasing power. Moreover, empirical studies in many countries indicate that high and volatile inflation significantly reduces people's purchasing power and economic growth in the long run. Additionally, it is generally accepted that there is a relationship between the level of inflation and its variance; that is, variance of inflation usually rises with the level of inflation. Hence, setting an inflation target at a high level will cause various prices in the economy to become more uncertain, in turn affecting private consumption and investment plans and decisions, and eventually affecting economic growth. Furthermore, the inflation target level should also be consistent with trading partners' inflation in order to maintain price competitiveness of Thai products.

2.3 Inflation target range and time horizon: The announcement of a point target for inflation with a short and clear time-period is the most obvious way to show the central bank's commitment to its inflation target. This is partly because a short time-period will enable central bankers, as well as the public, to quickly detect if inflation falls outside the target range. In practice however, there are some drawbacks to a point target. Because inflation can be influenced by many factors, including temporary supply-side factors such as unfavourable weather conditions, while there are time lags in monetary policy transmission, most central bankers choose to set their inflation target as a range or a point with a tolerance band. This is set in conjunction with the time horizon which is used to anchor inflation expectations, which can range widely, from a continuous horizon ("at all times") as in the UK, to a horizon "over the business cycle", as used in Australia. However, in the latter case, it is unclear as to how many years the business cycle may span.

3. Thailand's inflation target in the past up to 2008

Since May 2000, Thailand's inflation target has been core inflation (the change in the CPI index that excludes raw food and energy prices), with a target range of between 0 - 3.5 per cent per annum, measured as a quarterly average. Because core inflation can reflect demand pressures well, and is less volatile than headline inflation, monetary policy would not have to fluctuate unnecessarily, as doing so could lead to excessive output volatility. Meanwhile the time horizon for the target range, measured as a quarterly average, allows any deviation of inflation from the target range to be promptly detected. In addition, the inflation target range of 0 - 3.5 per cent per annum is consistent with trading partners' inflation.

The MPC reassesses the appropriateness of the inflation target every year as part of its internal proceedings. The MPC agrees that the current inflation target is well-understood and is familiar to the public. This helps in maintaining price stability, and helps to support growth of the Thai economy. Furthermore, the consistency of the inflation target helps enhance the effectiveness in anchoring the public's inflation expectations.

4. Inflation target in 2009

Under the new BOT Act, the MPC is required to set a target for monetary policy in conjunction with the Minister of Finance every year before submitting the target for Cabinet approval before year-end for implementation in the following year. At this juncture, the MPC and the Minister of Finance have carefully considered the appropriateness of the inflation target, taking into account issues mentioned above in Section 2. They mutually agreed to propose an inflation target for 2009 as the quarterly average of core inflation, in order to achieve continuity in the conduct of monetary policy. This would also show the MPC's commitment in containing inflation within the announced target. Nevertheless, in order to reduce the probability of deflation, the MPC adjusted the target range to 0.5 - 3.0 per cent per annum, which is in line with trading partner's inflation in order to maintain price competitiveness of Thai products.

Should realized inflation breach the announced target, the MPC will send an open letter to the Cabinet explaining why the target has been breached, specifying the direction of monetary policy going forward as well as the time which is expected to be required to bring inflation back to within the target range. This is an international practice used to ensure that the MPC remains committed to its mandate of maintaining price stability, particularly in periods when the inflation target is temporarily breached due to unexpected events outside the control of monetary policy.

The inflation target for 2009 mentioned above is currently awaiting approval by the Cabinet.

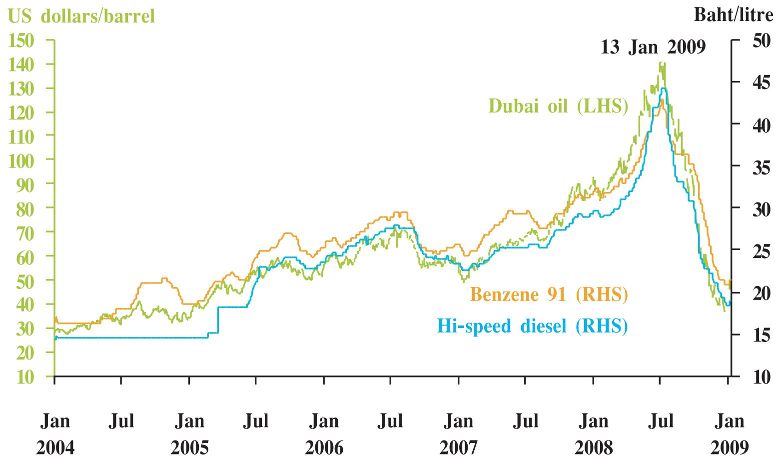
2. Inflation and Economic Conditions

Inflation trends

The continued decline in global oil prices reduced pressure on domestic energy prices.

In 2008 Q4, global oil prices continued to decline from the previous quarter, with the price of Dubai oil falling considerably from an average of 113.62 US dollars per barrel in 2008 Q3 to 52.8 US dollars per barrel in this quarter. The drop in oil prices resulted from the decline in global oil demand following the economic slowdown in major industrialized countries. Furthermore, OPEC's announcements to reduce oil production by 3.7 million barrels in this quarter were unsuccessful at pushing up oil prices, but merely kept oil prices from dropping further from the current level.

Chart 2.1 Dubai oil price and domestic retail oil prices



Source: PTT Public Company Limited

The decline in world oil prices led to a drop in domestic retail oil prices. The average prices of ULG 91 and high-speed diesel fell from 37.85 and 36.19 baht per litre in 2008 Q3 to 26.36 and 22.71 baht per litre in this quarter, respectively. Moreover, prices of other raw materials used in production also fell in line with those in the world market. As a result, the overall Producer Price Index (PPI) in 2008 Q4 increased from the same period last year by only 2.9 per cent, slowing down considerably from the rates of 15.7 and 20.6 per cent encountered in 2008 Q2 and 2008 Q3, respectively.

The pass-through of production costs to prices of goods and services slowed down due to the decline in production costs, particularly in energy prices.

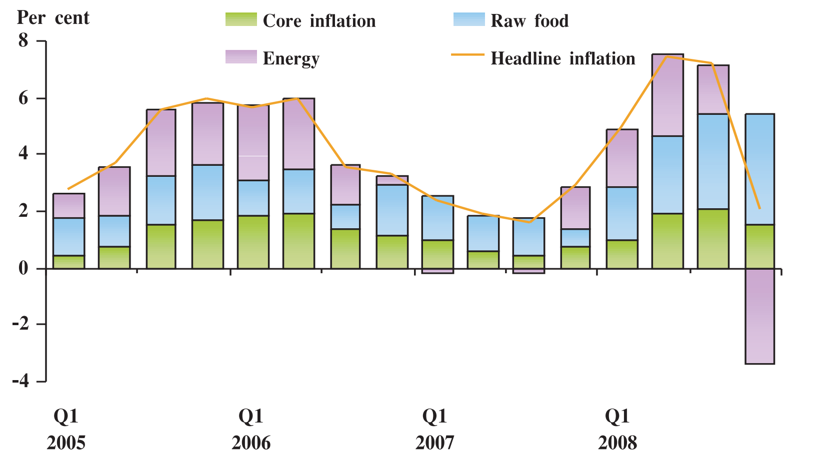
The decline in production costs, the effect from the government's measures to alleviate the cost of living and the slowdown in domestic demand resulted in a lower pass-through from production costs to prices of goods and services than previously experienced. As a consequence, pressure on consumer prices declined significantly, as reflected by the drop in headline inflation from 7.3 per cent in 2008 Q3 to 2.1 per cent in this quarter. Furthermore, core inflation decelerated from 2.9 per cent in 2008 Q3 to 2.1 per cent in this quarter.

Table 2.1 Quarterly inflation

Unit: Per cent	2007	2008	2008 Q1	2008 Q2	2008 Q3	2008 Q4
Percentage change from the previous year (%Δyoy)						
- Headline consumer price index	2.3	5.5	5.0	7.5	7.3	2.1
• Core consumer price index	1.1	2.4	1.5	2.8	2.9	2.1
• Raw food	6.5	15.3	10.3	15.5	17.5	18.5
• Energy	2.4	8.0	17.2	23.0	14.9	-20.9
- Producer price index	3.3	12.4	10.8	15.7	20.6	2.9
Percentage change from the previous quarter (%Δqoq)						
- Headline consumer price index	-	-	1.6	4.2	-0.2	-3.4
• Core consumer price index	-	-	0.5	1.6	0.4	-0.4
• Raw food	-	-	4.2	8.0	2.6	2.6
• Energy	-	-	3.8	12.4	-6.9	-27.3
- Producer price index	-	-	4.1	8.9	2.4	-11.4

Source: Trade and Economic Index Bureau, Ministry of Commerce

Chart 2.2 Contribution to headline inflation



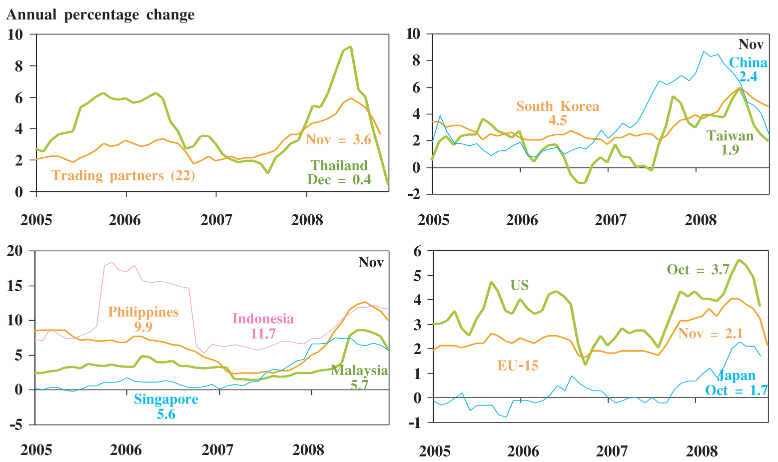
Source: Trade and Economic Index Bureau, Ministry of Commerce

Overall, foreign inflation trended downwards, similar to that experienced in Thailand. The deceleration was mainly due to lower energy costs and weak economic conditions. In October 2008, US headline inflation declined to 3.7 per cent from 4.9 per cent in the previous month, while inflation in Japan decelerated to 1.7 per cent in October from 2.1 per cent in the previous month. Meanwhile, European HICP inflation stood at 2.1 per cent in November, down from 3.2 per cent in the previous month.

Foreign inflation decelerated continuously following the global economic slowdown and significant decline in energy prices.

With regards to inflation in the region, inflation in China decelerated from 4 per cent in October to 2.4 per cent in November. Nevertheless, inflation in some countries such as the Philippines, Malaysia, Indonesia and Singapore also decelerated, albeit at a slower pace. This was due to exchange rate depreciation from risk aversion which led investors to withdraw funds from these countries to more secure investment alternatives such as US Treasury bills, especially in the current situation where uncertainties in global money markets were heightened.

Chart 2.3 Inflation in Thailand and other countries



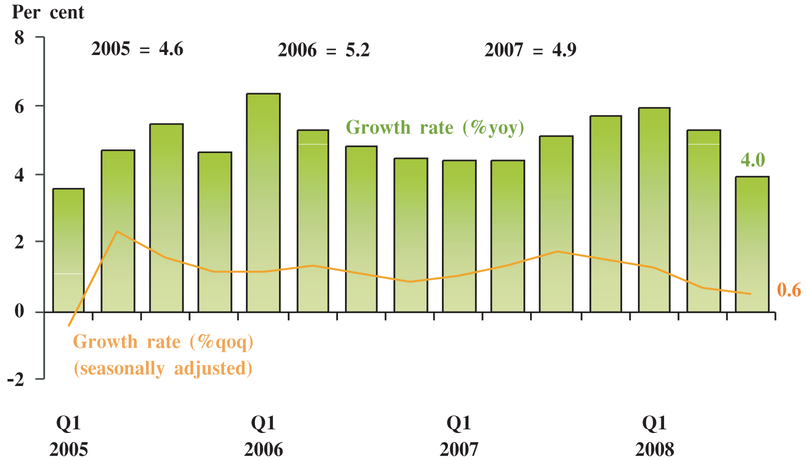
Source: Various official sources and Bloomberg

Aggregate demand in 2008 Q3 [1/]

In 2008 Q3, the Thai economy grew by 4.0 per cent year-on-year.

In 2008 Q3, the Thai economy grew by 4.0 per cent from the same period last year, slowing down from 6.0 and 5.3 per cent in the first and the second quarters, respectively, due to marked deceleration in net exports, coupled with a decline in real government expenditure - both in consumption and investment. Nevertheless, private expenditure expanded to some extent. As a result, the overall contribution to GDP growth was attributable to private expenditure along with inventory accumulation. However, the rise in inventory was due mainly to businesses' excessive orders and imports of raw materials resulting from an overly-optimistic economic assessment during the prior period. Taking this into consideration, the signs of a slowdown in the Thai economy became apparent from the third quarter of this year.

Chart 2.4 Real GDP growth at 1988 prices

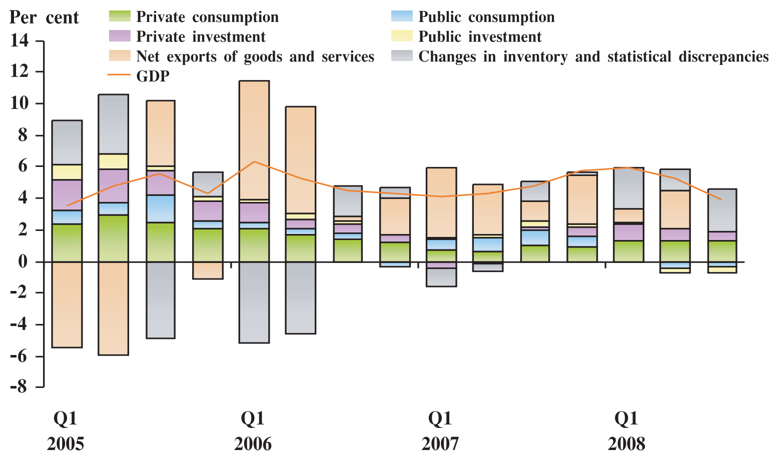


Source: National Economic and Social Development Board

[1/] Data used to analyze aggregate demand in 2008 Q3 was obtained from the NESDB. Economic indicators used for analyzing 2008 Q3 and the outlook for 2008 Q4 were obtained from the BOT, except for the Consumer Confidence Index, which was produced by the University of the Thai Chamber of Commerce, and data on government expenditure, which originated from the Comptroller General's Department and was compiled by the Fiscal Policy Office.

On a seasonally-adjusted basis, the Thai economy displayed an unbroken trend of deceleration. In the third quarter, the economy grew by 0.6 per cent quarter-on-quarter, compared to 0.8 per cent in 2008 Q2 and 1.2 per cent in 2008 Q1. However, excluding the large, aforementioned increase in inventory, the Thai economy would have grown at an even lower rate than 0.6 per cent from the previous quarter.

Chart 2.5 Contribution to GDP growth



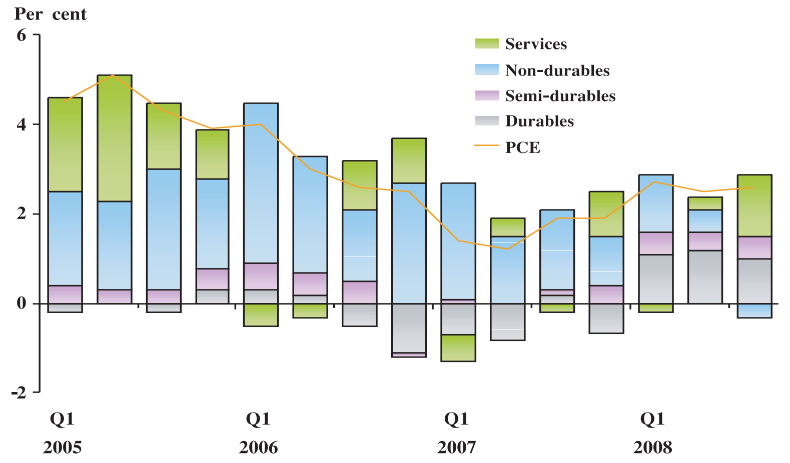
Source: National Economic and Social Development Board

The slowdown in net exports and the contraction in government expenditure contributed to lower economic expansion than in the previous quarter.

A closer inspection of aggregate demand components in 2008 Q3 showed private consumption growth of 2.6 per cent from the same period last year, close to the growth rate of 2.5 per cent in the previous quarter. The growth was attributed mainly to the expansion in consumption of durable goods such as passenger cars, motorcycles, computers, and electrical appliances. This was partly due to a rise in farm income during the past period, in conjunction with a substantial increase in service expenses. Nevertheless, political instabity and the worsening world financial crisis dampened consumer confidence in this quarter.

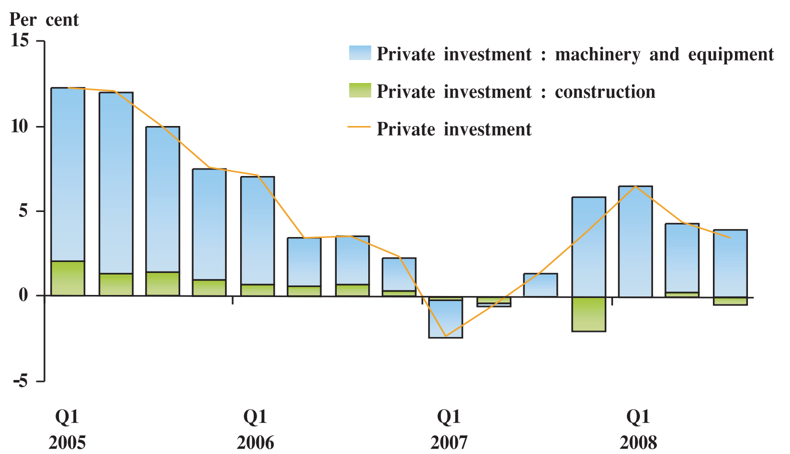
Private investment in the third quarter of 2008 expanded by 3.5 per cent year-on-year and continued to slow down from the first and the second quarters in which the growth rates registered at 6.5 and 4.3 per cent respectively. The deceleration resulted mainly from contraction in construction investment, particularly in factory construction. This was partly due to a rise in the prices of construction materials during the past period. Meanwhile, the expansion of machinery and equipment investment remained steady from the previous quarter. In any case, the slowdown in private investment was in line with the decline in the Business Sentiment Index (BSI), which fell from 42.6 in the previous quarter to 41.1 this quarter.

Chart 2.6 Contribution to PCE growth



Source: National Economic and Social Development Board

Chart 2.7 Contribution to private investment growth



Source: National Economic and Social Development Board

On the fiscal side, nominal spending in the fourth quarter of fiscal year 2008 (Q3 of calender year 2008) registered at 24.0 per cent of the entire annual budget, which was lower than the same period last year. Contrary to what was anticipated, government expenditure in this quarter did not help contribute to economic growth. A closer inspection showed that public consumption expenditure contracted by 2.9 per cent from the same period last year, while public investment expenditure shrunk by 5.5 per cent, following a decline in construction activities of the central government, local government and state-owned enterprises, coupled with a slowdown in mega-project investment. Moreover, public investment in machinery and equipment also contracted, as both the central and local governments delayed their purchases of vehicles and office appliances.

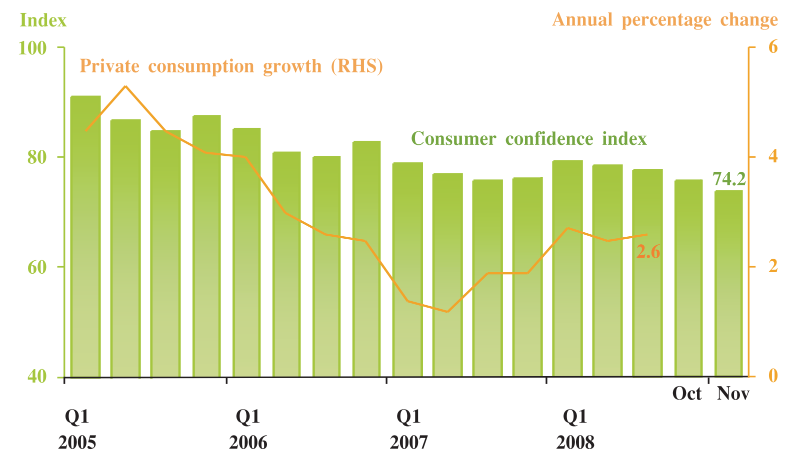
On the external front, net exports in 2008 Q3 played a smaller role in driving economic growth compared to the previous quarters due to sluggish export growth. The volume of exports of goods and services grew by 8.2 per cent from the same period last year, decelerating from 9.1 per cent in the previous quarter, owing to a slowdown in trading partners' economies - particularly in major industrialized countries. At the same time, however, imports accelerated markedly. The volume of imports of goods and services grew by 10.5 per cent compared to 6.9 per cent in the previous quarter. Imports accelerated across all goods categories, particularly in raw materials such as chemical and metal products.

Trend of aggregate demand in 2008 Q4

Political unrest was partly responsible for the slowdown in private consumption and the marginal expansion of private investment in 2008 Q4.

In October and November 2008, private consumption and private investment indicators compiled by the Bank of Thailand pointed towards a continued deceleration in overall private expenditure. The Private Consumption Index (PCI) averaged at 130.3, down from 133.7 in the third quarter. The fall in PCI was attributable to a slowdown in VAT receipts, imports of consumer goods, motorcycle sales - in line with the decline in farm income following the slowdown in agricultural prices - as well as a contraction in commercial car sales. Declining trends of these indicators were in tandem with deteriorating consumer confidence against the backdrop of domestic political unrest, in spite of the government's economic stimulus measures and positive developments from lower oil prices and inflation. All in all, the average Consumer Confidence Index (CCI) for the October-November period stood at 75.0, down from 77.8 in the previous quarter.

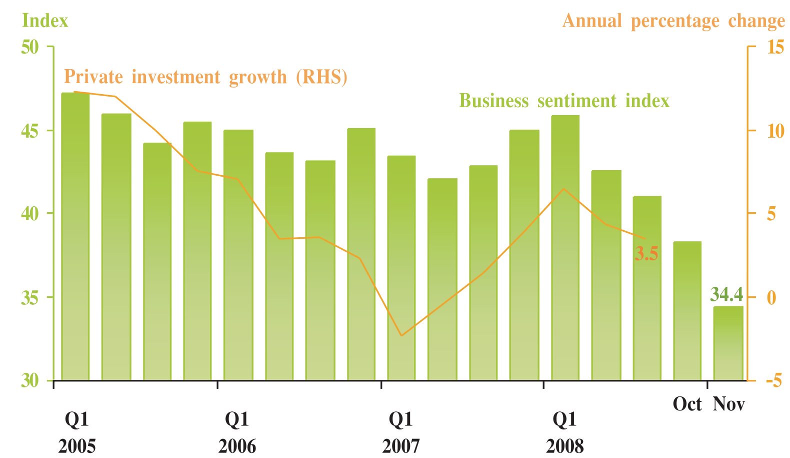
Chart 2.8 Consumer confidence index and private consumption growth



Source: The University of the Thai Chamber of Commerce and National Economic and Social Development Board

The Private Investment Index (PII) during the October-November period grew on average by 1.3 per cent, down from 3.3 per cent in the third quarter. Investment in machinery and equipment turned sluggish in tandem with the slowdown in imports of capital goods and contraction of commercial car sales. Meanwhile, construction investment continued to shrink, as reflected in the decline in domestic cement sales. The low expansion in private investment stemmed partly from the continued deterioration in business confidence. Specifically, the Business Sentiment Index (BSI) for the October-November period averaged at 36.4, adjusting downwards from an average of 42.6 in the second quarter and 41.1 in the first quarter, a result of businesses'

Chart 2.9 Business sentiment index and private investment growth



Source: Bank of Thailand and National Economic and Social Development Board concerns over political instability as well as the domestic and world economic slowdown.

On the fiscal side, government revenue collection in October and November 2008 declined on average by 10.1 per cent from the same period last year, owing largely to contraction in both tax and non-tax receipts. Nevertheless, this drop was due to several unusual factors; therefore, the large contraction in government revenue collection might not fully reflect economic activities during the past period. More specifically, the decline in tax income was a result of the reduction in income from excise tax and specific business tax, namely excise tax on oil consumption, as part of the government's measures to relieve the cost-of-living burden for a period of 6 months, and specific business tax for real estate transactions, respectively. Meanwhile, the contraction in non-tax income resulted from the delay in state-owned enterprises' remittances, which were postponed to December 2008. In any case, the MPC anticipated that government revenue collection in the next period would inevitably be lower from the current economic slowdown. As a result, even though the unusual factors listed above would account for lower-than-normal government revenue collection during the October-November period, it was likely that government revenue collection on average would remain low until the economy recovered.

Government expenditure continued to contract from the same period last year.

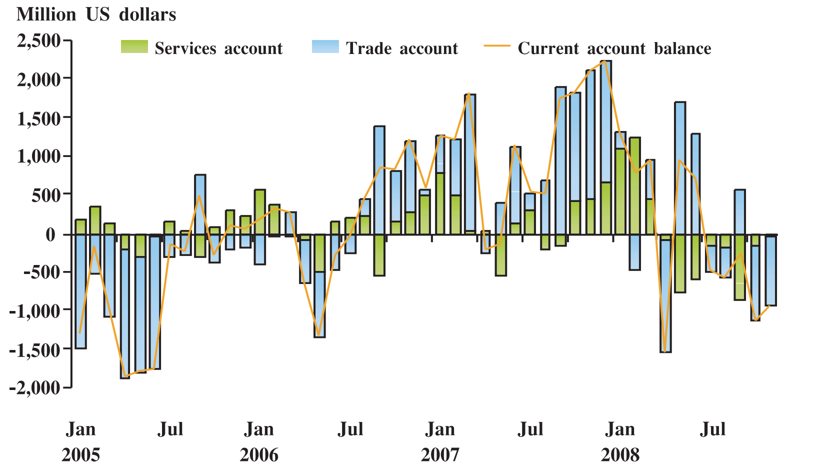
Government expenditure in October and November contracted on average by 5.1 per cent from the same period last year, mainly from capital expenditure. Moreover, the overall disbursement rate in the first quarter of fiscal year 2009 was likely to be lower than the same period of the last fiscal year, partly because of the political turmoil that affected government stability, leading to delays in the implementation of some government projects.

Export volume contracted, following a slowdown in external demand and the impact from airport closure. Meanwhile, import volume weakened considerably.

On the external front, export volume in October and November 2008 contracted considerably after slowing down in the previous quarter. Export volume contracted due to weakening external demand as the impact of the global financial crisis intensified in the US, where the crisis originated, as well as in the euro area, Japan, China, Australia, and ASEAN countries. Moreover, the economic slowdown was responsible for diminishing income in the Middle East as oil prices plummeted. The slowdown in the economy of these important trading partners caused export demand for Thai goods to weaken across almost all categories, most apparently for agricultural and high-technology products such as computers, computer parts, electrical circuit boards, and electrical appliances. All in all, contracting export volume coupled with declining export prices coused export values to fall in the last quarter of 2008.

Income from the services sector in 2008 Q4 was also expected to decline following a contraction of income from tourism. This was a result of the economic slowdown in the home countries of foreign tourists, in conjunction with domestic political unrest during the previous period (see box for further details).

Chart 2.10 Current account balance



Source: Bank of Thailand

Both the value and volume of imports in the October-November period expanded at a decelerated rate from the previous quarter as a result of declining price and volume across almost all goods categories. Overall, this was in line with the slowdown in domestic and external demand. Specifically, imports of raw materials diminished considerably, in part due to excessive imports in the previous quarter.

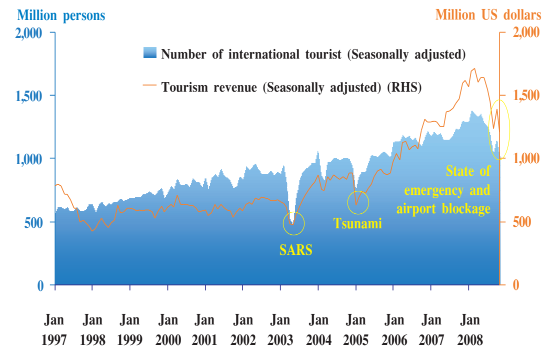
Given the deceleration of import value and contraction of export value, the trade balance in the fourth quarter of this year was likely to register a deficit, continuing from the previous quarter. This differed markedly from previous years, as the trade balance tended to register a surplus in the last quarter of the year. Moreover, the service account was

Impact of the global economic slowdown and political unrest on tourism in Thailand

Tourism in Thailand is expected to perform less satisfactorily as a consequence of the global economic slowdown - particularly in Thailand's major tourism markets - and the political tension that led to the closure of Suvarnabhumi and Don Mueang international airports in late November to early December 2008. In early December 2008, the Bank of Thailand made an assessment of the direct impact of the airport closure on the tourism sector and its extended effect on other related sectors for the Monetary Policy Committee, based on the situation as of 3 December. From this earlier estimation, the number of foreign tourist arrivals in 2008 and 2009 was projected to fall to 14.0 and 12.8 million persons, down by 3.0 and 8.8 per cent respectively. This would result in a loss in tourism revenue (direct impact) of 140 billion baht. This direct loss of foreign tourists' expenditures would affect activities in other related sectors and result in an economy-wide loss in income totaling 290 billion baht[2/], or equivalent to approximately 3 per cent of nominal GDP in 2009.

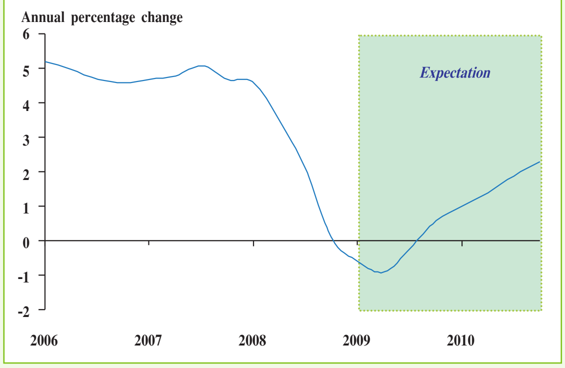
Nevertheless, this estimation has been revised to take into account the actual turnout in December, with preliminary figures for foreign tourist arrivals indicating a drop of foreign tourist arrivals of 38.5 per cent, lower than our earlier forecast of 60 per cent. Key factors behind this lower reduction included the easing of political tension since mid-December 2008, which was more quickly than expected, and the increase in the number of direct and chartered flights to important tourist destinations in the south of Thailand. As a result, the performance of the tourism sector improved slightly when compared to the previous forecast. The number of foreign tourist arrivals in 2008 and 2009 was therefore revised up to 14.3 and 13.5 million persons, a contraction of 0.8 and 5.6 per cent from the previous year, respectively. Hence, the projected loss to tourism revenue during the November 2008 - December 2009 period was reduced to 100 billion baht[3/]. The overall projected loss in income (direct and indirect) incurred to the economy was reduced to 210 billion baht, accounting for 2 per cent of 2009 nominal GDP. The service sector would experience the highest income loss of 91 billion baht, followed by the transportation and the manufacturing sectors which would see income fall by 68 and 42 billion baht respectively.

Chart 1 Number of international tourist and tourism revenue



Source: Tourism Authority of Thailand and Bank of thailand

Chart 2 Trading partner GDP growth rate*



Note: *Using proportion of the number of international tourists of each country as weight

Source: Bank of Thailand

1/ For further details, see WE-MPG January 2009 vol.10, *Thailand's Tourism Industry after the Blockade of Airports*, available via http://www.bot.or.th/Thai/Economic Conditions/Publication/Pages/WE_MPG.aspx (Thai version only).

2/ The estimation results are derived from input-output model using 2000 input-output table compiled by the Office of the National Economic and Social Development Board (NESDB). The shock to the model is a revenue loss of 140 million baht. This loss was disaggregated and imposed onto 4 sectors, namely, hotels, restaurants, ground transportation, and air transportation, by proportions of 30, 20, 10, and 40 per cent respectively.

3/ Although the number of foreign tourist arrivals increased from the previous forecast, tourism revenue did not improve significantly due to lower spending by foreign tourists in line with the weakening world economy and the cheaper tourism packages offered by hotels and travel agents.

To compensate for losses incurred from the decline in foreign tourism revenue, the government set out to promote domestic tourism. In December 2008, the government in collaboration with the private sector, including hotel and airline operators, organized a Thai Travel Fair to promote domestic tourism during both peak and off-peak periods. The policy aimed to rescue the tourism sector and to shelter other related industries and employment. Although the price-cut strategy reduced the average daily expenditure of Thai tourists, it helped to increase the quantity and frequency of domestic travel. The price-cut strategy benefited the tourism industry, as reflected in higher hotel occupancy rates - especially in northern Thailand - during the New Year holidays. In addition, the low oil price environment was another contributing factor which supported domestic travel.

The same amount of spending in the domestic market by Thai tourists, however, did not yield the same impact as spending by foreign tourists, given the differences in structure of spending[4/]. Based on the direct purchase structure, foreign tourists, on average, spent a large proportion of their budget on accommodation and air transportation, whereas Thai tourists normally stayed at mid - to low-end hotels and traveled by ground transportation. The total impact, therefore, would depend on the direct purchases or shocks that are imposed, and the indirect impact which results from the industry's backward and forward linkages. To assess the sectoral and economy-wide impact of the stimulus from domestic tourism, the input-output model is employed. The total shock of 100 billion baht is divided based on the structure of the direct purchases by Thai tourists (information from the Tourism Authority of Thailand (TAT)). These shocks are then broken down and imposed on various sectors corresponding to the structure of the direct purchase. Such analysis found that domestic tourism spending generated a total revenue of 180 billion baht, which was lower than the total impact of 210 billion baht resulting from the same amount of foreign tourist spending. The service sector would gain the most benefit of 93 billion baht, followed by the transportation and the manufacturing sectors which would see their output increase by of 43 and 35 billion baht respectively.

To sum up, the gains from domestic tourism would not entirely offset the losses from foreign tourism, given the different patterns of spending. More importantly, encouraging Thai people to spend more on tourism would be a daunting task, given the current fragility of the domestic economy. Thailand's tourism industry still crucially relies on spending by foreign tourists to help boost the overall economy and support the current account. As a result, government policies to stimulate the tourism industry and restore foreign tourists' confidence are of importance and are especially crucial at this juncture.

Table: The direct and indirect effect of foreign and domestic tourism

	Foreign tourism revenue lost (Hundred billion baht)	**Domestic tourism revenue** (Hundred billion baht)
Direct effect	-1.00	+1.00
Direct and indirect effect	-2.11	+1.80
• Service sector	-0.91	+0.93
• Transportation sector	-0.68	+0.43
• Manufacturing sector	-0.42	+0.35
• Other sector	-0.10	+0.09

[4/] To boost Thai tourists' spending by 100 billion baht, domestic tourism revenue needs to grow by 25 per cent from the previous year, when the revenue base was 390 billion baht (the Tourism Authority of Thailand (TAT)). With the lower average spending of a Thai tourist relative to a foreign tourist, i.e. 4,600 baht per person trip for a Thai tourist compared to 38,000 baht per person trip for a foreign tourist, each missing foreign tourist must be replaced by eight Thai tourists so as to raise the equivalent amount of spending.

also likely to register a deficit, following diminishing income from tourism. As a result, the current account was expected to turn deficit for two querters in a row, with a possibility that it would remain in deficit for some time, in line with the view that the Thai economy would need to rely on domestic demand and government expenditure as the main drivers of growth in the next period.

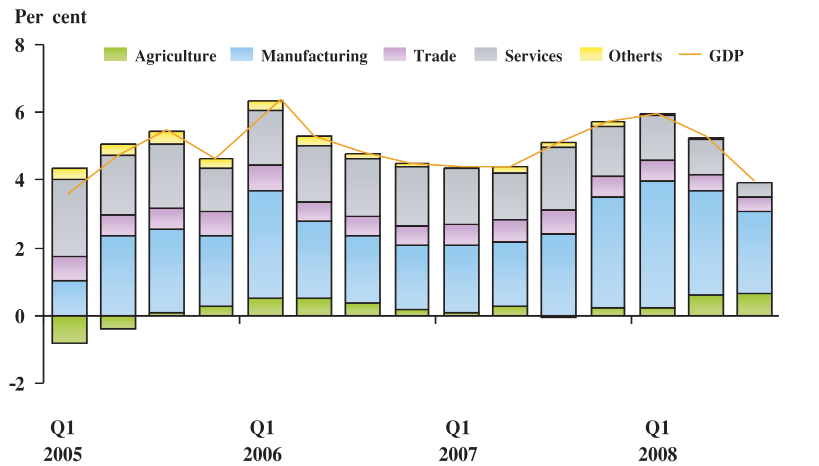
Production and supply in 2008 Q3 [2/]

In 2008 Q3, the agricultural sector expanded well, while the manufacturing and services sector slowed down from the previous quarter.

In 2008 Q3, agricultural production expanded by slightly more than in the second quarter. However, the rates of growth of manufacturing production and services decelerated, as a result of the slowdown in the world economy and internal political unrest, which further hampered the domestic economy.

Agricultural output grew by 9.9 per cent from the same period last year, a decent acceleration from 8.6 per cent in the previous quarter. The growth was driven by high expansion in crop production, especially rice and energy crops such as cassava, oil palm, and corn, as high prices earlier in the year motivated farmers to increase their production.

Chart 2.11 Contribution to GDP growth



Source: National Economic and Social Development Board

[2/] Data used to analyze production and supply in 2008 Q3 were obtained mainly from the NESDB. Economic indicators used for analyzing 2008 Q3 and the outlook for 2008 Q4 were obtained from the BOT, while data on the number of tourists and occupancy rate was in part compiled by the Tourism Authority of Thailand. Data on the labor market was obtained from the NSO.

In addition, favorable climate conditions helped facilitate the rise in output. Nevertheless, agricultural prices began to decline towards the end of the quarter in response to declining demand as a result of the slowdown in the world economy. Declining crude oil prices in the world market also directly affected the prices of energy crops. Moreover, rising world supply also contributed to lower agricultural prices as agricultural products from several countries were released into the market during the period, especially rice from Vietnam and India which had abrogated their rice export restraints.

Manufacturing production slowed down for both export-oriented and domestic-oriented industries.

Manufacturing production in the third quarter grew by 6.1 per cent, down slightly from 7.7 per cent in the previous quarter. The slowdown was attributable to deceleration in electronic industries, passenger cars, construction materials, steel products and household electrical appliances, and shrinkage in the commercial car industry, following a slowdown in both domestic and external demand. Nevertheless, food industries for export, particularly sugar and canned seafood, still managed to expand well. Meanwhile, the beverages industry accelerated due to accumulation of inventories in advance of the rise in excise taxes. Additionally, motorcycle industries expanded well as a rise in farm income motivated consumers in rural areas to purchase motorcycles.

The services sector grew by 1.3 per cent from the same period last year, slowing down from 3.1 per cent in the previous quarter. The fall in the growth rate came mainly from the deceleration in air transport and hotel and restaurant services, in line with the falling number of foreign tourists which contracted by 1.7 per cent compared to the growth rate of 13.8 per cent in the second quarter. This was due mainly to the intensification of domestic political unrests, which drove the government to declare a state of emergency in Bangkok from 2 -14 September 2008. In addition, there was an incident of airport closure in the south, while bus and train services were temporary halted. Although the state of emergency was lifted in the following period, damage from prolonged political unrest had already been inflicted, sharply dampening confidence among foreign tourists. Together with the economic slowdown in their home countries, growth in the services sector in this quarter fell short of expectation.

Despite a slowdown in the overall economy, the unemployment rate remained low at 1.1 per cent at the end of the third quarter, down slightly from 1.2 per cent at the end of the previous quarter. This was in line with the overall employment rate which grew at 1.8 per cent from the same period last year, following an increase in employment in the services, trade, and construction sectors. Nevertheless, there was a sign of deceleration in employment in some manufacturing sectors. At the same time, employment in the agricultural sector contracted from the same period last year, reflecting limited ability of the agricultural sector in accommodating labourers from other sectors.

The unemployment rate remained low at 1.1 per cent at the end of 2008 Q3.

Trend in production and supply in 2008 Q4

During October and November 2008, major crop output grew on average by 0.8 per cent, a significant slowdown from the third quarter. This was the result of a contraction in the production of maize and oil palm, the output of which was unusually high in the previous period. Meanwhile, the output of rubber and cassava decelerated as cassava producers delayed their harvest in order to take advantage of the government's price guarantee scheme, after the government continued to raise the guaranteed price month after month.

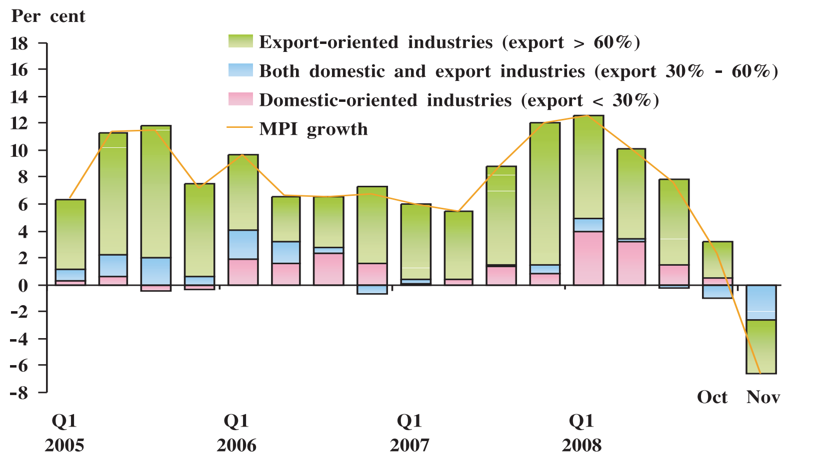
Major crop output grew marginally, while the rise in agricultural prices slowed down significantly.

During the October-November period, prices of major crops rose on average by 16.3 per cent from the same period last year, compared to 34.2 per cent in the previous quarter. The slowdown in crop prices reflected the declining trend sustained from the end of the third quarter. The MPC expected that the slowdown in agricultural prices would affect overall farm income, and subsequently affect private consumption via rural consumption in the next period.

Manufacturing production in 2008 Q4 showed a declining trend. This was reflected in the Manufacturing Production Index (MPI), which slowed down considerably in October and shrank from the same period last year in November, the first contraction in 7 years. Export oriented industries - particularly the production of hard disk drives - that expanded well during the previous period, began to contract for the first time in November. In addition, production of frozen and canned seafood also contracted, following the slowdown in external demand. Meanwhile, domestic-oriented industries decelerated in succession since the beginning

Manufacturing production was likely to contract in line with the slowdown in export-oriented industries.

Chart 2.12 Contribution to manufacturing production index (MPI) growth



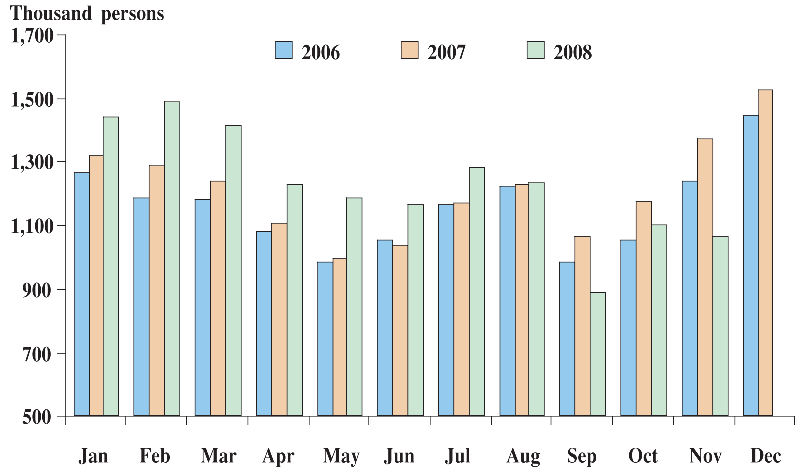
Source: Bank of Thailand

of 2008 and contracted slightly in November, following the marked slowdown in domestic demand.

Political unrest led to significant contraction in tourism in 2008 Q4.

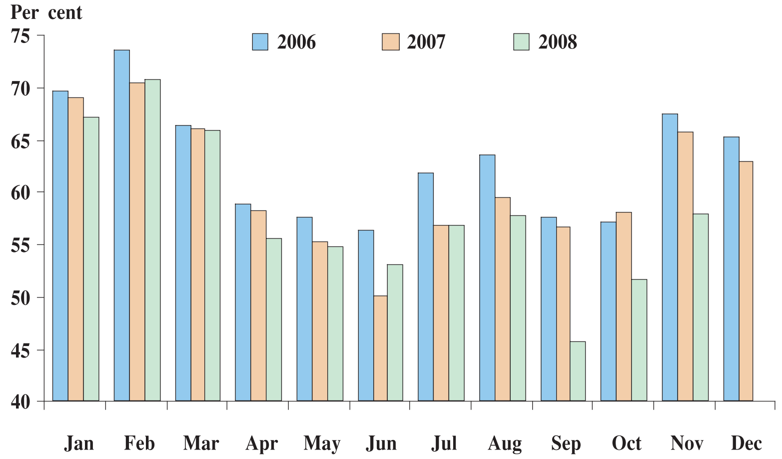
During the October-November period, tourism became sluggish, as reflected in the decline in foreign tourists that fell on average by 14.4 per cent from the same period last year. This resulted mainly from political unrest that intensified towards the end of November and culminated in the shutdown of Bangkok's international airports for a week. This particular incident obstructed international travel, dealing a blow to confidence of foreign tourists.

Chart 2.13 Number of tourists



Source: Tourism Authority of Thailand and Bank of Thailand

Chart 2.14 Hotel occupancy rate



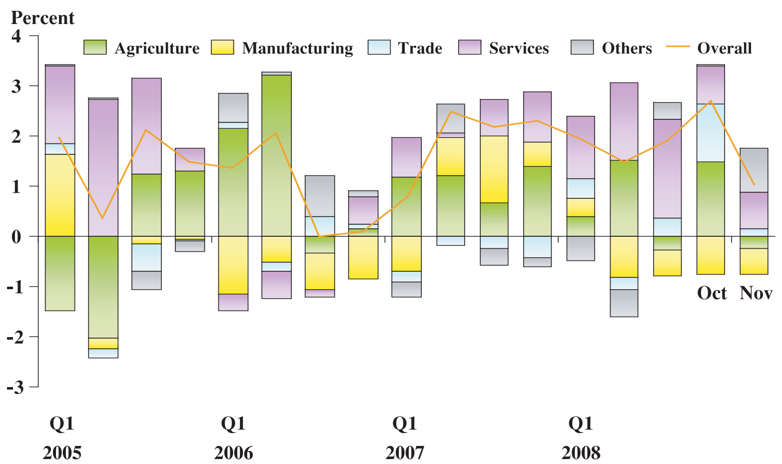
Source: Tourism Authority of Thailand and Bank of Thailand

Although the political situation had improved, the MPC assessed that a certain amount of time would be needed for the Thai tourism industry to recover and re-emerge as a robust engine of growth for the economy.

The unemployment rate was likely to increase in the following period.

As for labour market condition, the unemployment rate increased from 1.1 per cent at the end of the third quarter to 1.4 per cent in November 2008, in line with the rate of employment which grew at a mere 0.7 per cent from the same period last year. This low expansion

Chart 2.15 Employment growth and sectoral contributions



Source: National Statistical Office

was the result of contraction in employment in the agricultural and manufacturing sectors. Notably, the unusual rise in unemployment rate at year-end, when unemployment would ebb, coupled with a reduction in work hours in the manufacturing sector pointed to a trend of rising unemployment going forward.

3. Monetary Conditions and the Exchange Rates

Following the release of the previous *Report,* the MPC met on 3 December 2008 and assessed that the impact of the global financial crisis on the Thai financial sector remained limited. However, the larger-than-expected growth slowdown in industrial economies would have an adverse impact on the export sector. In addition, domestic political problems were likely to delay the impact of fiscal stimulus. Going forward, risks to growth to the Thai economy increased significantly, whilst risks to inflation decreased markedly and were likely to remain low throughout 2009. Given the significant shift in the environment, the MPC assessed that monetary policy could be eased to help support economic recovery, particularly as the economy faced numerous negative risks, both on the domestic and external fronts. The MPC therefore decided to lower the policy interest rate by 1.00 per cent per annum, from 3.75 per cent per annum to 2.75 per cent per annum.

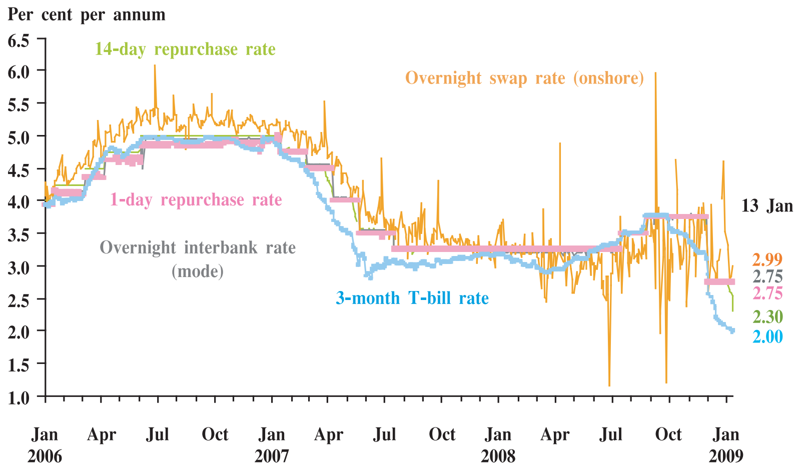
Subsequently, during the meeting on 14 January 2009, the MPC assessed that even though the domestic political situation, which began to stabilize, should help enable the implementation of economic stimulus measures, risks to growth increased markedly as a result of severe recession in industrial economies. Given the fact that risks to inflation remained low, the MPC was of the view that monetary policy could be eased further and decided to lower the policy interest rate by 0.75 per cent per annum, from 2.75 per cent per annum to 2.00 per cent per annum.

Money market conditions

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

In Q4 2008, short-term money market interest rates for both collateralized and uncollateralized lending in Thai baht moved closely in line with the policy rate. Following the reduction of the policy interest rate in December, short-term money market interest rates adjusted in the same direction and magnitude. As a result, the 1-day repurchase rate and the overnight interbank rate averaged at 3.46 and 3.45 per cent, respectively, a decrease from an average of 3.56 and 3.54 per cent per annum in the previous quarter.

Chart 3.1 Money market interest rates



Source: Bank of Thailand

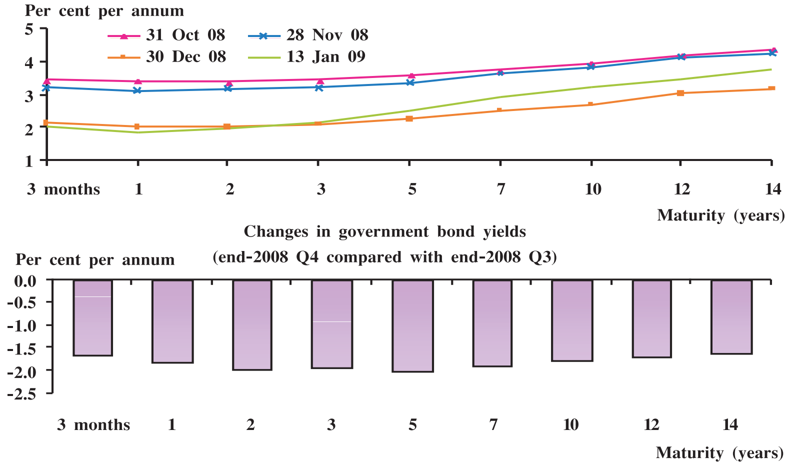
Nevertheless, the overnight swap rate, which reflected the cost of borrowing Thai baht using US dollar as collateral, still fluctuated somewhat. This was due to the tightening of USD liquidity during some periods following the shortage of USD in global money markets. The overnight swap rate averaged at 3.31 per cent per annum, a slight increase from the average of 3.24 per cent per annum in the previous quarter.

The yields on long-term government bonds declined in line with inflation expectation and the policy interest rate.

Government bond yields declined on average this quarter, in tandem with investors' expectation of a downward trend for the Thai economy and the resulting decline in inflation and the policy interest rate since the beginning of the quarter. Additionally, risk aversion prompted investors to divert their investment from the stock market into the bond market, which was considered a safer option. This in turn led government bond yields to decline further.

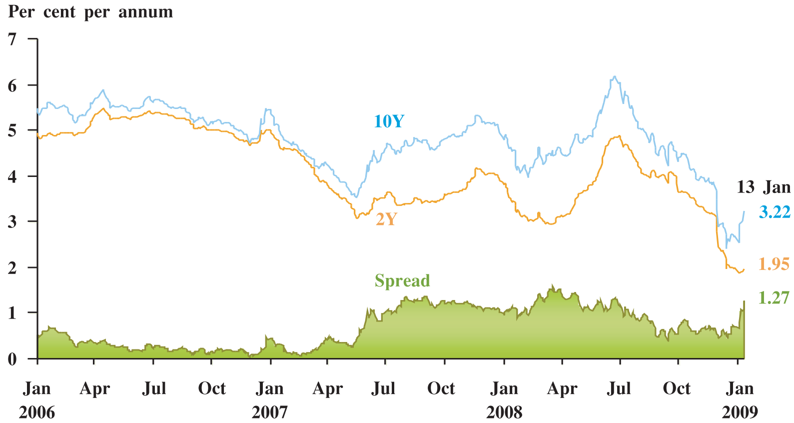
The aforementioned change in investors' expectation caused the implied forward curve, which reflected future short-term rates anticipated by the market, to decline throughout the last quarter of 2008. The short-term interest rate ten years from now decreased in tandem with lower inflation expectations in the medium term, whilst short-term interest rates 1-2 years from now continued to decline to a

Chart 3.2 Government bond yields



Source: Bank of Thailand

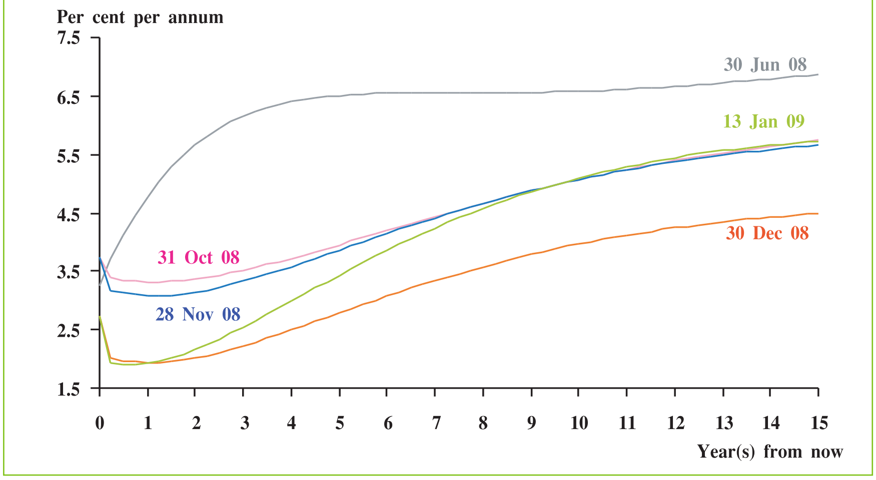
Chart 3.3 Government bond yield spread between 10-year and 2-year bonds



Source: Bank of Thailand

level lower than the policy rate, especially during the latter part of the quarter. This reflected market expectation of further policy interest rate cuts to support economic recovery, given that risks to inflation remained low.

Chart 3.4 Government bond implied forward curves



Source: Bank of Thailand

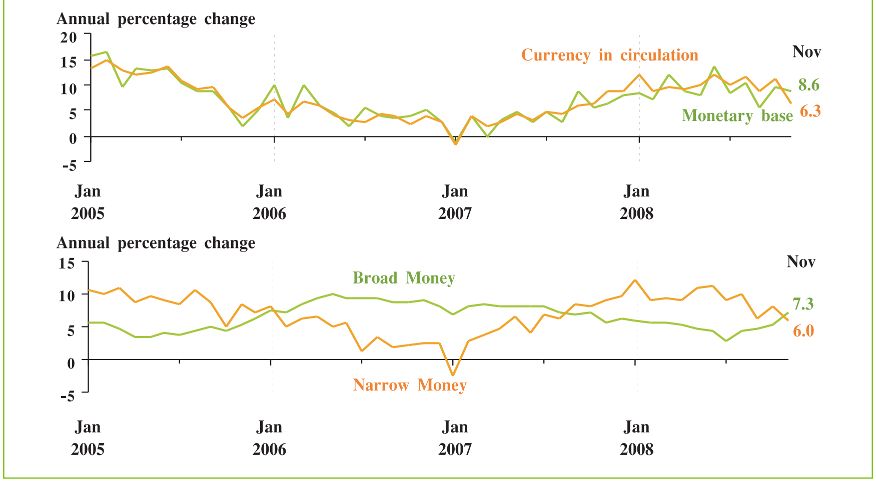
Monetary base and money supply

The monetary base slowed down in line with decelerating economic growth and inflation.

In October and November 2008, the monetary base expanded by 9.1 per cent compared to the same period of the previous year. However, since the middle of 2008, monetary base and currency in circulation exhibited a decreasing trend. This was reflected in the moderation of economic activities and softer inflation in the previous period.

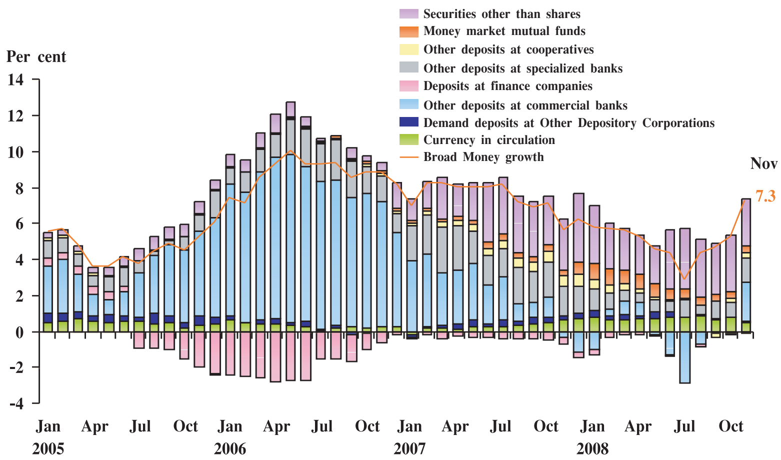
Broad money in October and November 2008 grew at the rate of 5.1 and 7.3 per cent, respectively. This expansion was mainly due to

Chart 3.5 Growth rate of money supply



Source: Bank of Thailand

Chart 3.6 Contribution to Broad Money growth



Source: Bank of Thailand

an increase in commercial banks' deposits and securities issued by commercial banks. Risk aversion also prompted investors to divert more of their investments to markets with lower risk. Moreover, some investments in securities abroad which reached maturity gradually returned into the banking system. It should be noted that in this *Inflation Report,* the definition of broad money had been revised to include bills of exchange, money market mutual funds as well as deposits at savings cooperatives. This change of definition was intended to ensure consistency of the measure of broad money with international standards for compilation of financial statistics.

Adjustments of the banking system

After the MPC decided to lower the policy interest rate by 1.00 per cent per annum on 3 December 2008, most commercial banks gradually adjusted their reference interest rates downward for both deposits and loans. As a result, the 3-month and 12-month time deposit rates of the 4 largest commercial banks at the end of 2008 Q4 averaged at 1.41 and 1.75 per cent per annum, respectively, while the MLR of the four largest commercial banks averaged at 6.75 percent per annum. Nevertheless, real interest rates continued to rise from the previous quarter as inflation declined at a faster rate than the fall in reference interest

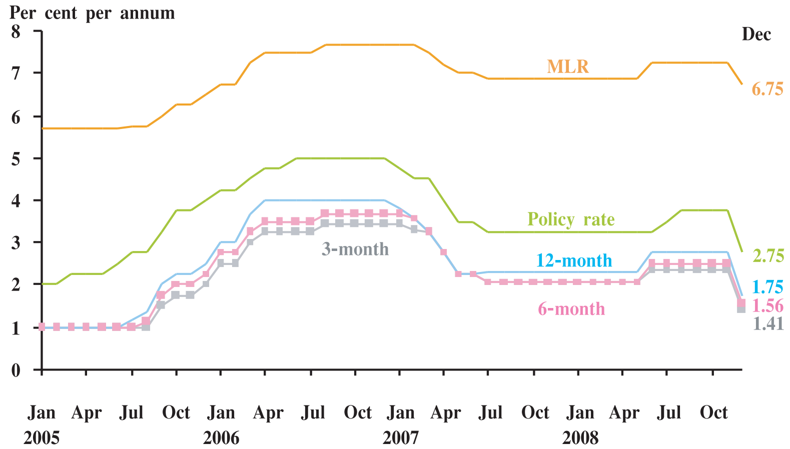
Most commercial banks adjusted their time deposit rates and MLR downwards alongside the fall in the policy interest rate. In contrast, the real interest rates edged up as the decrease in inflation outweighed the interest rates fall.

Table 3.1 The policy rate and banks' reference retail rates*

Unit: Per cent per annum	2006	2007				2008		
	Dec	Mar	Jun	Sep	Dec	Oct	Nov	Dec
Policy rate	5.00	4.50	3.50	3.25	3.25	3.75	3.75	2.75
Average reference retail rates of the 4 largest banks								
Savings	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
3-month	3.44	3.25	2.25	2.06	2.06	2.37	2.37	1.41
6-month	3.69	3.25	2.25	2.06	2.06	2.50	2.50	1.56
12-month	4.00	3.25	2.25	2.31	2.31	2.75	2.75	1.75
24-month	4.69	3.69	2.50	2.50	2.50	3.50	3.50	2.50
MLR	7.69	7.50	7.00	6.87	6.87	7.25	7.25	6.75

Note: *Rates at end-period
Source: Bank of Thailand

Chart 3.7 Policy rate and commercial banks' reference retail rates*

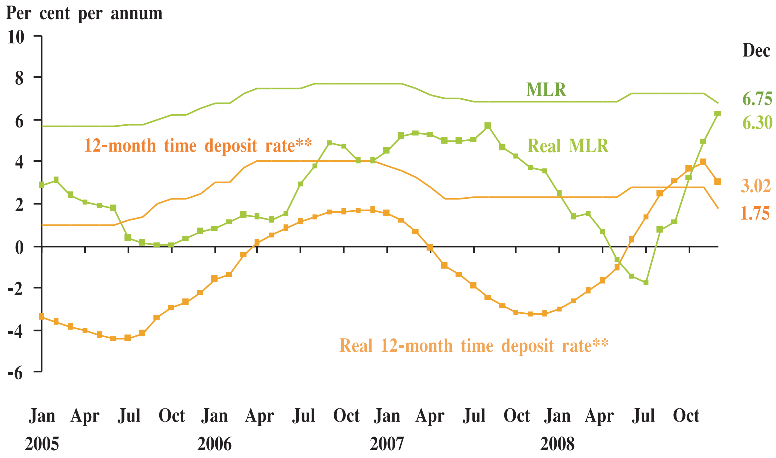


Note: *Average rate of the 4 largest commercial banks at end-period
Source: Bank of Thailand

rates. The average real MLR[1/] and real 12-month deposit rate[2/] increased from 0.04 and 2.30 per cent per annum at the end of the previous quarter to 4.83 and 3.56 per cent per annum at the end of this quarter, respectively.

[1/] Real MLR = MLR - contemporaneous headline inflation
[2/] Real 12-month deposit rate = 12-month deposit rate - average forecasted inflation 12 months ahead

Chart 3.8 Commercial banks' interest rates*



Note: *Average rate of the 4 largest commercial banks
**Real interest rates are calculated from the compounded interest rate formula
Source: Bank of Thailand

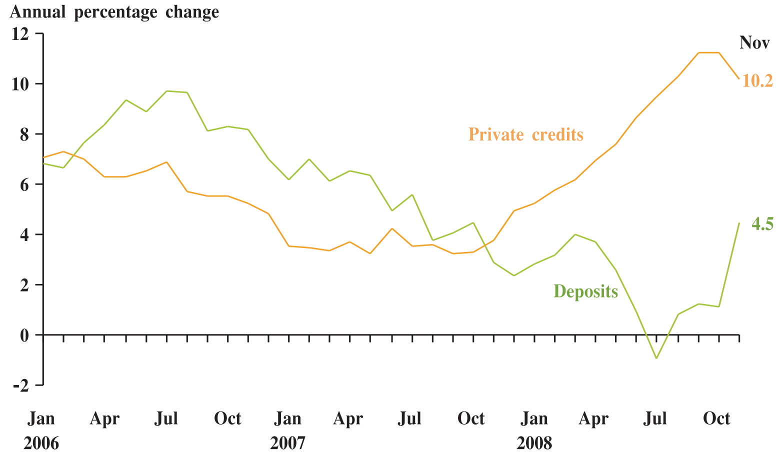
The growth of deposits[3/] of Other Depository Corporations'[4/] continued to expand at a low rate but began to show signs of acceleration in the fourth quarter. In October and November 2008, deposits grew by 1.1 and 4.5 per cent from the same period last year, respectively. The acceleration in deposits came about as investors shifted their investment from risky assets, such as foreign securities and bonds, back into deposits. Moreover, the narrower spread between 12-month deposit rate and 1-year government bond yield reflected improving returns on deposits, resulting in an expansion of deposits.

Deposits expanded at a faster rate as investors shifted away from riskier assets.

[3/] In this *Inflation Report,* the series for deposits and credits of Other Depository Corporations were adjusted by including data for saving cooperatives and money market mutual funds. Additionally, negotiable certificates of deposit (IMF definition) were excluded from the deposit series; as a result, figures on deposits are slightly lower after adjustment.

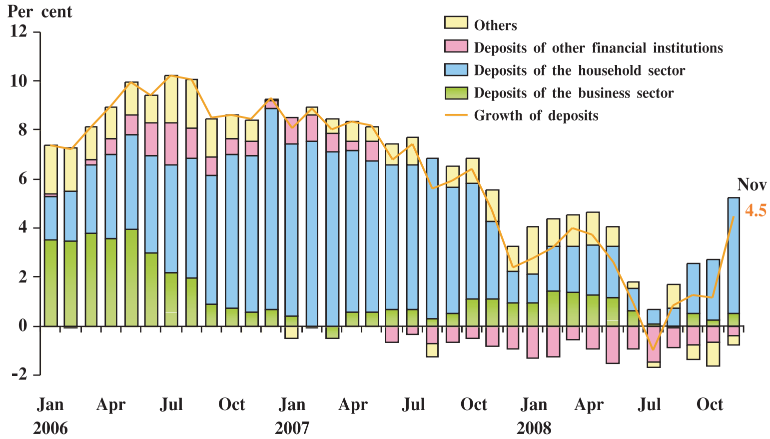
[4/] Other Depository Corporations comprise of domestically registered commercial banks, branches of foreign banks, international banking - facilities, finance companies, Specialised Financial Institutions (including Government Savings Bank, Government Housing Banks, Bank for Agriculture and Agricultural Cooperatives, Export-Import Bank of Thailand, Small and Medium Enterprise Development Bank of Thailand, Islamic Bank of Thailand), saving cooperatives, and money market mutual funds.

Chart 3.9 Other Depository Corporations' deposits and private credits



Source: Bank of Thailand

Chart 3.10 Contribution to growth of deposits of Other Depository Corporations

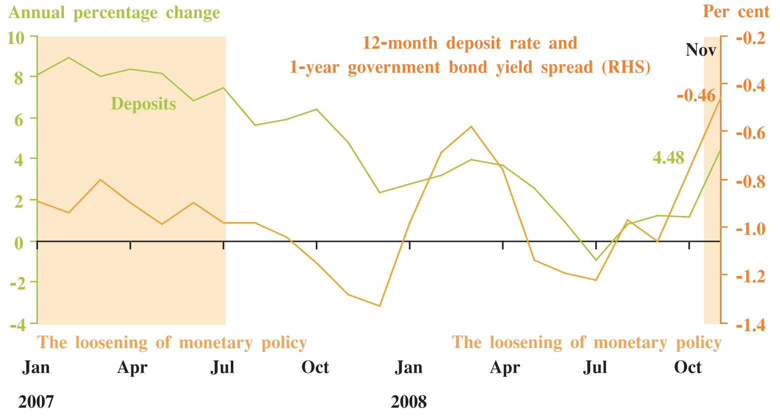


Source: Bank of Thailand

The growth in private credits began to slow down, mainly as a result of the fall in credits extended to the corporate sector.

The growth of private credits at Other Depository Corporations began to slow down in this quarter, particularly corporate sector credits, corresponding to weaker economic conditions and lower pressure on the costs of production. This resulted in a remarkable slowdown in the need for more working capital compared to the same period last year. Of total credits extended to the corporate sector, credits extended for use as working capital expanded by 17.4 and 13.2 per cent year-on-year in October and November 2008, respectively, compared to the average

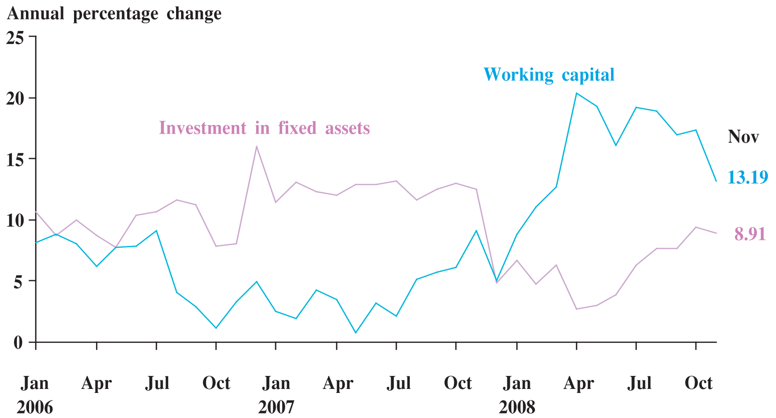
Chart 3.11 The spread of 12-month deposit rate and 1-year government bond yield, and the growth of Other Depository Corporations' deposits



Source: Bank of Thailand

expansion of 18.4 per cent in the previous quarter. Moreover, consistent with weakened outlook for the economy and a higher risk perception, the demand for loans for investment in capacity expansion began to decline.

Chart 3.12 Corporate loan growth rate of commercial banks classified by purpose



Source: Bank of Thailand

Exchange rates and capital flows

The Thai baht continued to depreciate from the previous quarter from both domestic and external factors.

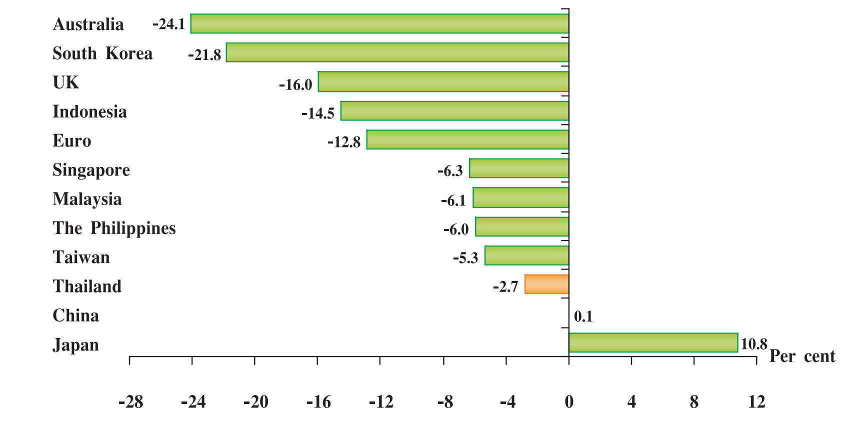
In 2008 Q4, the Thai baht continued to depreciate from the previous quarter. The depreciation that lasted until mid-December was partially due to the strengthening of the US dollar from the risk aversion that moved international investors towards lower-risk assets nominated in the US dollar such as US Treasury bills. Furthermore, between end-November and early-December, the Thai baht was weakened by domestic factors such as political unrest and the closure of Bangkok's international airports. These incidents affected investor confidence as well as the tourism industry, which had been an important source of foreign income.

During the latter half of December, the baht regained some of its strength as global investor confidence improved, as reflected by higher risk appetite as funds left the US for investment in riskier assets in regional capital markets. Moreover, the formation of a new government led markets to view that the fiscal stimulus package could be implemented without any major delay. Nevertheless, towards the end of the year, high demand for US dollar from gold and oil importers before the long holidays induced another bout of Thai baht depreciation. On average, the baht depreciated by 2.7 per cent from the average value in the previous quarter.

Chart 3.13 Exchange rate

Source: Bank of Thailand

Chart 3.14 Change in the values of foreign currencies against the US dollar
(average in 2008 Q4 compared with 2008 Q3)



Source: Bank of Thailand

The nominal effective exchange rate fluctuated during the quarter, but reported a slight appreciation overall from the previous period.

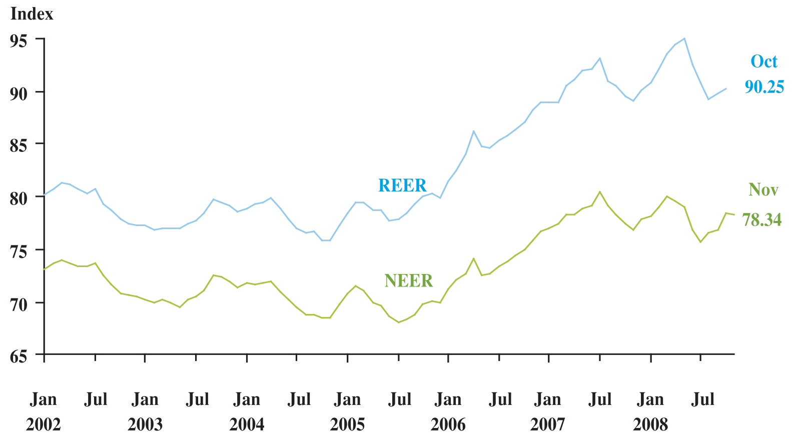
Despite the weakening of the baht against the US dollar, the Thai baht appreciated against regional peers (except for the yen that recently appreciated from the unwinding of carry-trade transactions) as investors expected that the impact of the crisis on the Thai financial sector would be less than that experienced by others countries in the region. As a result, the Nominal Effective Exchange Rate (NEER)[5/] appreciated significantly from the previous period.

Nonetheless, the depreciation of the baht exchange rate against most currencies towards the end of November as a result of domestic unrest led the NEER to weaken sharply. On average over the quarter, however, the NEER appreciated slightly by 2.0 percent compared to the previous period.

The Real Effective Exchange Rate (REER), calculated by deflating the NEER by relative inflation in order to reflect the country's price competitiveness, also registered a slight appreciation in October and then a decline in November in tandem with the NEER. The REER was expected to decline in December as a result of a fall in the NEER together with an overall decline in domestic inflation compared to that in major trading partners.

[5/] The Thai baht NEER is calculated as a weighted average of bilateral exchange rates between the baht and major trading partners' currencies.

Chart 3.15 Nominal effective exchange rate of the Thai baht (NEER)
(Trade-weighted, 1994 = 100)

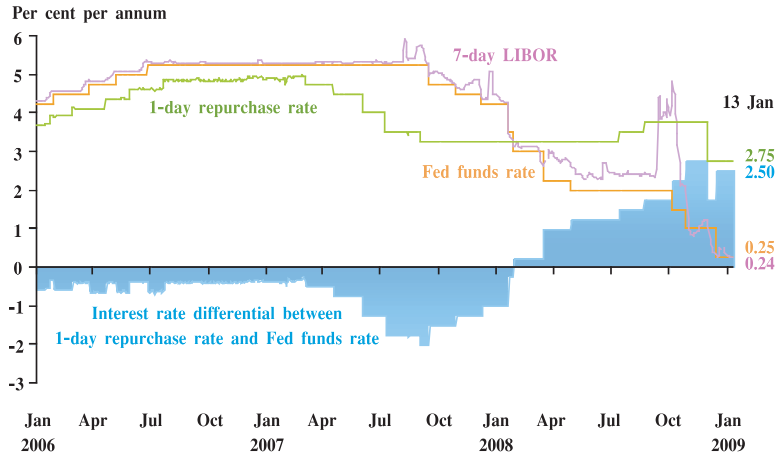


Source: Bank of Thailand

The difference between the Thai and US policy rates at the end of 2008 widened but had no significant impact on capital flows.

In 2008 Q4, the MPC decided to cut the policy interest rate by 1.00 per cent, while the FOMC reduced the Fed funds rate 3 times, totaling 1.75 per cent. As a result, the interest rate differential between Thai and US policy rates increased to 1.75 percent at end-quarter. Nevertheless, the widening interest rate gap had no significant impact on capital flows, which in recent periods were more sensitive to political factors and concerns over the ongoing global slowdown.

Chart 3.16 LIBOR, Fed funds rate and Thai repurchase rate



Source: Bank of Thailand

Overall external stability remained satisfactory. International reserves, inclusive of the BOT's net forward position, increased from 115.8 billion US dollars from the end of the previous quarter to 118 billion US dollars at end-December. At the same time, the ratio of international reserves to short-term debt registered at 4.0 at the end of October and was expected to rise in December due to the recent additional international reserve accumulation.

Overall external stability remained satisfactory.

Table 3.2 Balance of payments

Unit: Billion US dollars	2007	2007		2008[P]				
		H1	H2	H1	Q3	Oct	Nov[E]	Jan-Nov[E]
Current account balance*	14.0	5.1	9.0	3.1	-1.3	-1.1	-0.9	-0.3
Net capital flows*	-2.4	-1.6	-0.8	10.0	0.7	3.3	-0.2	13.8
Bank of Thailand	-0.6	-0.8	0.1	0.3	-0.1	-0.1	-0.05	0.1
Public	-2.2	-1.8	-0.4	0.2	-0.5	0.0	0.02	-0.3
Bank	-1.1	-6.7	5.5	5.5	2.1	2.3	-1.3	8.6
Others	1.6	7.6	-6.1	4.1	-0.8	1.0	1.1	5.4
Balance of payments	17.1	5.7	11.4	16.0	0.5	4.0	2.2	22.7

Note: * "Reinvested earnings" are recorded as part of direct investment in the financial account, and its contra entry recorded as 'investment income' in the current account
P = Preliminary
E = Estimated data and will be adjusted except the current account balance.
Source: Bank of Thailand

4. Financial Stability Conditions and Outlook

Impact from the global financial turmoil on Thailand's economic and financial stability started to become more pronounced. Although direct losses on financial institutions' balance sheets in the past periods were minimal, impacts from the global financial crisis which spilled over to the real economy had become more worrisome. This was reflected by a decline in profitability of the corporate sector, elevated risks regarding income and employment of the household sector, as well as subsequent deterioration in credit quality of financial institutions. Confidence and economic recovery were also undermined by domestic political conflicts, as was stability in the financial market, which became more volatile in 2008 Q4.

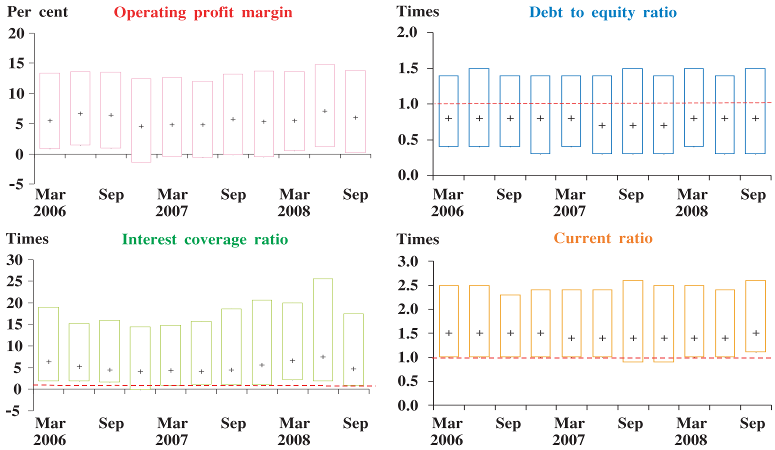
Non-financial corporate sector

In 2008 Q3, the corporate sector became increasingly vulnerable. This was attributed to lower profitability and higher financing costs.

In 2008 Q3, profitability of the corporate sector declined as a result of a slowdown in domestic demand and weakening confidence. It was also exacerbated by the acceleration in living costs during the previous periods which significantly dampened consumer purchasing power. Operating profit margins of most listed firms on the Stock Exchange of Thailand thus declined from the previous quarter. Moreover, the corporate sector was faced with rising financing costs. The increase was partly due to the hike in lending rates around mid-year, which was in line with the upward trend of the policy interest rate to deal with rising inflationary pressure at the time, as well as the increase in risk premium towards the end of the quarter due to the deepening of the financial turmoil. In the wake of the global credit crunch and high risk aversion, it was more difficult for firms to tap funds from abroad. Those that raised funds from domestic financial institutions and capital markets also experienced higher financing costs due to worsening economic prospects in Thailand, which became more apparent.

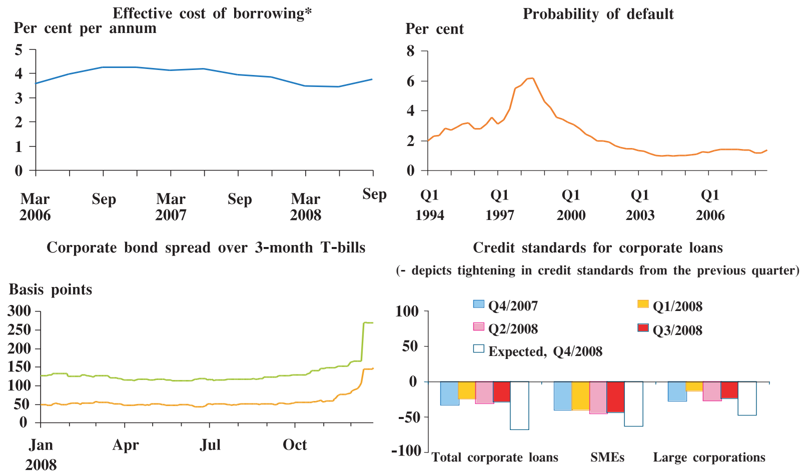
The increase in interest expenses together with the fall in profits reduced firms' ability to service debt, as reflected by the lower interest coverage ratio. Weaker financial health of the corporate sector translated into higher probability of default, calculated from the random-effect

Chart 4.1 Financial soundness indicators of the corporate sector



Note: Each bar depicts an interquartile range, where upper and lower bounds represent the 25th and 75th percentile, respectively.
The symbol + indicates the median.
Source: Stock Exchange of Thailand, calculations by Bank of Thailand staff

Chart 4.2 Financial costs and risks of the corporate sector



Note: *Effective Cost of Borrowing = Interest expense / (total liability - trade credit) *400
Source: Stock Exchange of Thailand, calculations by Bank of Thailand staff, Thai Bond Market Association and the Report on Credit Conditions of Financial Institutions, Bank of Thailand

probit model[1/]. This was in line with the latest credit condition survey which reported that banks perceived the corporate sector to be more risky due to the weaker economic outlook. As a result, financial institutions tightened their credit standards in recent periods.

[1/] For calculation details see the "Corporate sector vulnerability analysis from probability of default" box in the October 2008 *Inflation Report*.

The MPC assessed that, going forward, risks to the corporate sector would increase, especially from the impact of the weak global economy on businesses related to exports and tourism. Latest data in November 2008 pointed to a marked contraction in the exports of Thai goods and services. Thus, the MPC deemed it important to monitor the impact of the global financial turmoil on corporate sector stability. Meanwhile, risks from the internal front should also be closely monitored. Although political unrest had begun to subside after the new government was formed, the corporate sector could still face tight liquidity conditions and high borrowing costs. This is because, despite ample liquidity in the banking system and accommodative monetary policy, financial institutions and money markets made the assessment that the probability of default could rise. As a result, credit lines of the corporate sector could be limited or more costly as financial institutions required higher risk premium to compensate for impaired loans.

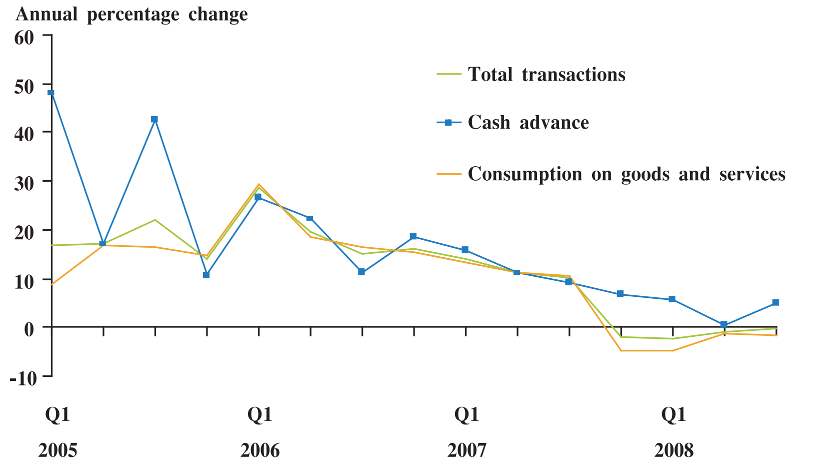
Going forward, risks to stability in the corporate sector could rise significantly.

Household sector

In 2008 Q3, although costs of living had begun to decline and households had been more cautious in their spending behaviour, as reflected by ongoing contraction of credit card transactions for consumption of goods and services, the sluggish economy started to

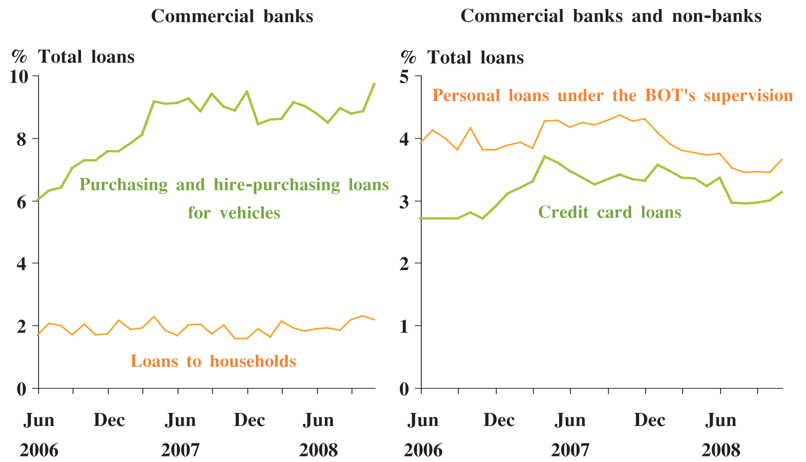
The household sector began to show some signs of fragility, particularly in liquidity conditions and debt servicing ability which worsened.

Chart 4.3 Credit card transaction growth*



Note: * Credit cards issued by banks and non-banks under the BOT's supervision
Source: Bank of Thailand

Chart 4.4 Household delinquency ratio



Source: Bank of Thailand

affect households' liquidity, as evidenced by a slight increase in cash-in-advance transactions. In addition, preliminary data in October and November 2008 signalled a worsening in debt servicing ability, as reflected by rising delinquencies - defined as loans past due between 1 to 3 months - on mortgage loans, auto leasing, credit card loans and personal loans under BOT's supervision.

Going forward, higher risks to households' income and employment could further worsen their debt servicing ability.

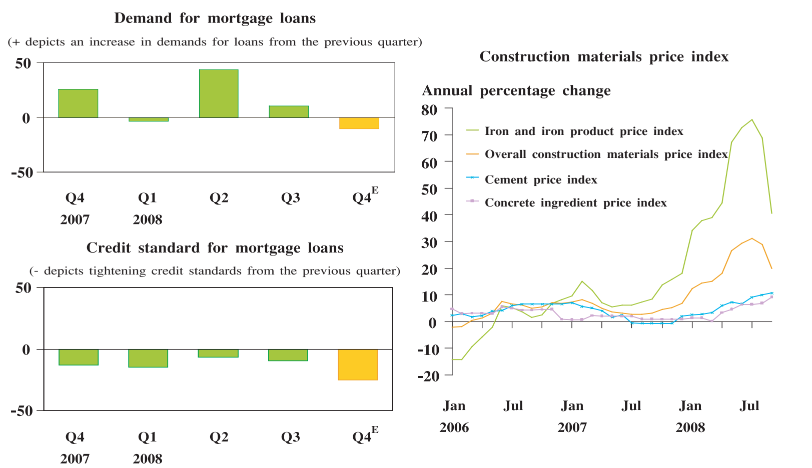
Looking ahead, higher risks to the corporate sector would inevitably bring about substantial risks to household's income and employment conditions. Latest labour indicators showed that employment in the manufacturing sector declined continuously since May 2008, while employment growth in the services sector began to slow down. Meanwhile, the agricultural sector's ability to absorb labour was more restricted, given falling agricultural prices, which resulted in lower demand for labour in this sector. Although the build-up of vulnerability in the household sector was not yet severe, it could lead to deterioration in the household's debt servicing ability, thereby affecting financial institutions' credit quality going forward and hence, must be closely monitored.

Real estate sector

The probability of a real estate price bubble remained low.

The MPC assessed that the probability of a real estate price bubble remained extremely low. Going forward, the growth rate of real estate prices should decelerate from the previous periods, owing largely to the slowdown in economic growth and consumer income. The tightening of mortgage lending by financial institutions[2/] would also dampen housing demand despite the launch of the government's real estate stimulus package. In addition, construction material prices continued to fall in tandem with the decline in global commodity prices, which consequently lowered the pressure on real estate prices via construction costs. Nevertheless, real estate prices in some areas jumped noticeably, probably a result of urbanization and the extension of mass transit systems. This was evidenced by the significant increase in the latest land price valuation[3/].

Chart 4.5 Real estate price indicators



Note: E = Outlook for the next quarter
Source: The Report on Credit Conditions of Financial Institutions, as of 2008 Q3, Bank of Thailand

Source: Trade and Economic Index Bureau, Ministry of Commerce

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2/ From the Senior Loan Officer Survey conducted in 2008 Q3.

3/ The Bureau of Property Valuation, Treasury Department announced the improvement of new land price valuation of 9 districts in Bangkok and individual land price valuation in 52 provinces, effective as of 1 January 2009.

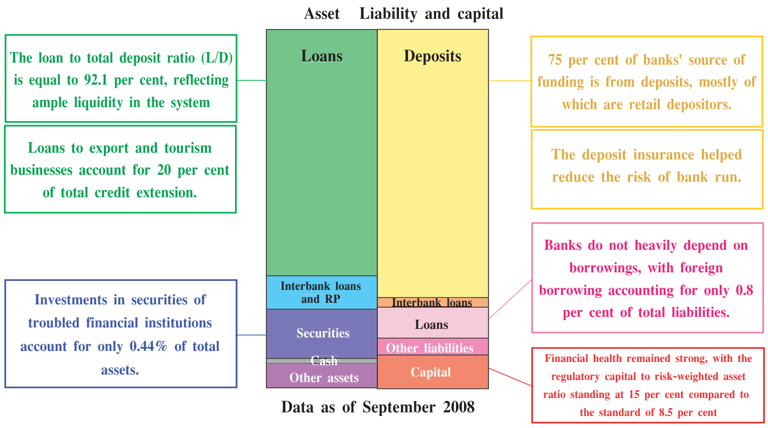
Financial institutions

Direct impacts of the global financial turmoil on Thai financial institutions' balance sheets were limited.

Direct impacts of the global financial turmoil on balance sheets of Thai financial institutions were limited as their exposure to assets of troubled financial institutions abroad were small, accounting for only 0.44 per cent of total assets. Moreover, provisions were already fully made for probable losses from investments in collateralized debt obligations (CDOs) related to US subprime mortgages. With regard to liquidity, the Thai banking system was not affected by the tightening of global liquidity, owing in part to less dependency on foreign capital markets; unlike the experience before the 1997 crisis or current experiences of other countries, for example South Korea. As a result, Thai financial institutions were not exposed to the severe deleveraging process. In addition, the blanket guarantee on deposits, which was implemented since 1997 and was recently extended for another 3 years until 2011, helped restore confidence of retail depositors, Thai banks' main source of funding. All in all, liquidity of Thai banks remained ample, reflected by fairly large amounts of deposits compared to those of loans. Thus, the MPC deemed that liquidity was not a constraint for banks to lend in the current situation, but rather heightening credit risks were, resulting from further weakening of the economic outlook.

Chart 4.6 Commercial banks' financial structure

Balance sheet of commercial banks



Source: Bank of Thailand

The spill-over from the global financial turmoil onto the real sector would be the main risk to credit quality going forward.

The MPC, nonetheless, was concerned about the spill over effect of the global financial turmoil on the real economy, which could lead to deterioration in the quality of corporate and consumer loans. This was because the global recession would lead to a sharp fall in external demand and pose potential risks to the corporate sector, in particular those related to exports and tourism, which accounted for 20 per cent of total loans. In addition, weakening domestic demand from political uncertainty and fragile confidence could also adversely affect domestic-oriented firms. This could have repercussions on employment and thus undermine credit quality of consumer loans. The MPC therefore assessed that the probability of default of corporate and household sectors would increase going forward and consequently contribute to substantial risks to the financial system. Although the NPL ratio to total loans continued to decline, delinquencies appeared to rise.

Nevertheless, overall financial health as captured by regulatory capital and liquidity remained sound and should be able to help cushion

Table 4.1 Thailand's Financial Soundness Indicators (September 2008)[1/]

Key indicators (%)	2007			2008		
	Jun	Sep	Dec	Mar	Jun	Sep
1. Capital adequacy						
1.1 Regulatory capital to risk-weighted assets (8.50)[2/]	13.93	14.63	14.80	14.49	15.02	15.28
1.2 Regulatory tier 1 capital to risk-weighted assets (4.25)[2/]	10.93	11.66	11.86	11.52	11.51	11.89
2. Asset quality						
2.1 Non-performing loans to total loans	8.49	8.58	7.86	7.35	7.01	6.51
3. Earning and profitability						
3.1 Return on assets (ROA)	0.20	0.29	0.12	1.30	1.18	1.51
3.2 Interest margin[3/] to gross income[4/]	71.7	73.0	75.1	71.3	72.2	79.7
3.3 Non-interest expenses to gross income	61.4	59.3	60.7	50.5	52.2	57.7
4. Liquidity						
4.1 Liquid assets[5/] to total assets	27.1	27.1	24.7	20.3	20.4	18.7
4.2 Liquid assets to short-term liabilities[6/]	34.4	33.9	31.9	25.7	27.4	24.4
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

against future shocks. Furthermore, the tightening in lending standards of financial institutions in the previous periods should help reduce risks of default. At the same time, it could lead to credit tightening and higher financing costs for firms. Thus, the MPC would monitor that lending standards would not be excessively tightened and impede operations of sound businesses and the recovery of the overall economy.

Financial markets

In 2008 Q4, Thai financial markets remained sensitive to both domestic and external developments, especially the stock market which became more volatile owing to severe risk aversion among foreign investors. In addition, political uncertainty also aggravated investor confidence.

Although volatility in Thai financial markets subsided somewhat towards the end of the quarter, the MPC assessed that investors were still highly sensitive to new information. Thus going forward, the global financial turmoil and political uncertainty could continue to affect stability in the financial markets.

Foreign exchange market

Major currencies on the whole remained volatile.

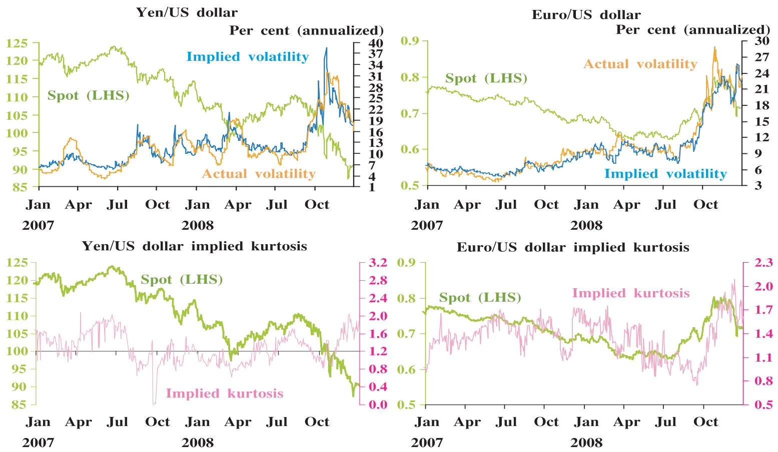
Major currencies, including the US dollar, euro and yen, remained volatile due to the increase in severity of risk aversion which led to abrupt deleveraging. Furthermore, owing to concerns over the global economic recession, investors unwound their carry trade transactions to minimize losses and transferred their investments to risk-free US government bonds, resulting in large fluctuations of the euro and yen. However, towards the end of the quarter, volatility of major currencies subsided somewhat due to the US economic recovery package, coupled with eased monetary policy stance conducted by central banks around the world. This volatility level, nonetheless, was higher than the norm, reflecting that investor sentiment remained highly fragile.

The probability of drastic movements in the euro vis-á-vis the US dollar measured by the implied kurtosis increased in 2008 Q4 owing to market concerns that economic problems in the euro area could be severe and persistent, while the implementation of fiscal policies to stimulate the economy in the euro area could be limited. On the other hand, the easing trend of Japan's monetary policy stance, together with the previous unwinding of carry trades helped reduce the probability of drastic movements in the yen vis-á-vis the US dollar as reflected by the decline of the implied kurtosis.

Chart 4.7 Trade weighted dollar index
(up to 30 December 2008)

Source: Bloomberg

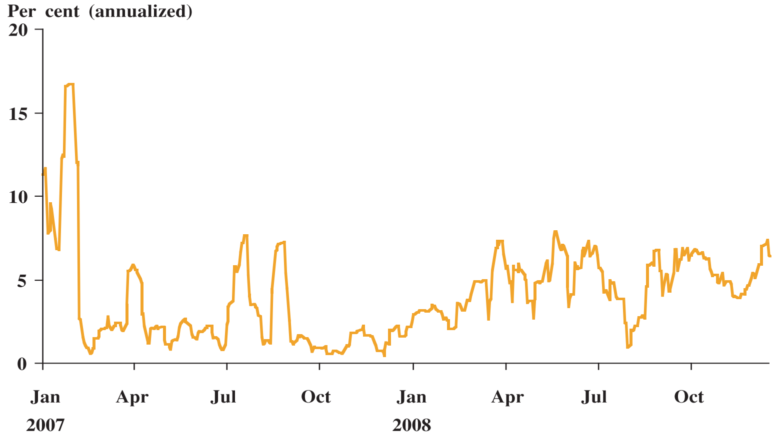
Chart 4.8 Volatility of major currencies



Source: Bloomberg

Major currencies' volatility contributed crucially to fluctuations in regional currencies, including the baht. Nevertheless, the baht was quite stable in comparison to other regional currencies such as the Indonesian rupiah and Korean won, which were harder hit by the global financial crisis. Nevertheless, domestic political uncertainly which became more severe in some periods, for example during the closure of the 2 international airports during the end of November and the beginning of December, caused the baht to become more volatile.

Chart 4.9 Baht actual volatility (Actual volatility - onshore)
(up to 30 December 2008)



Source: Bloomberg

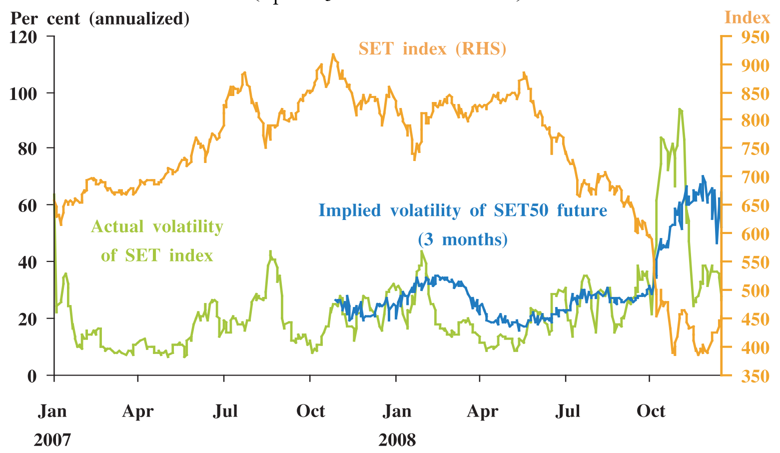
Thai equity market

The SET index was highly volatile as a result of risk aversion and political uncertainties.

The SET index was highly volatile over the quarter. The index declined sharply at the beginning of the quarter, before adjusting upwards slightly towards the end of the quarter.

At the beginning of the quarter, the SET index was influenced by several negative factors external and domestic, including the financial turmoil in the US and Europe which drove other countries' economies into recession, together with investors' concerns over domestic political uncertainty. Nonetheless, the easing of monetary policy stance around the globe, the US economic recovery package, coupled with alleviated domestic political conflicts caused the SET index to strengthen somewhat. Going forward, the SET index was expected to remain volatile as reflected by the implied volatility of SET50 for the next 3 months, which remained high.

Chart 4.10 Volatility in the Stock Exchange of Thailand (SET)
(up to 30 December 2008)



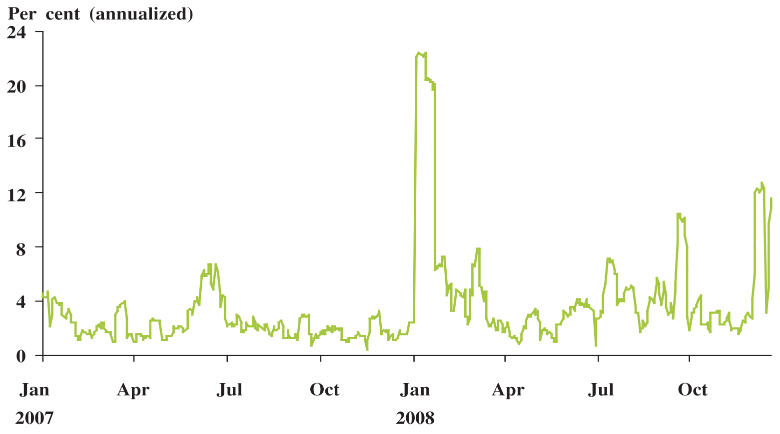
Source: Stock Exchange of Thailand, calculations by Bank of Thailand and Bloomberg

Thai government bond market

Thai government bond yields declined for all maturities in 2008 Q4. Early in the quarter, bond yields fluctuated at a normal level, but increased significantly towards the beginning of December due to the 1.00 per cent policy rate cut by the MPC on 3 December 2008, which was larger than 0.50 per cent anticipated by the market.

Thai government bond yields were highly volatile, partially due to the larger policy rate cut than expected by the market.

Chart 4.11 Volatility in the Thai government bond market
(up to 30 December 2008)



Source: Thai Bond Market Association, calculations by Bank of Thailand

Going forward, the MPC assessed that risks to Thailand's financial stability would remain high, especially from impacts of the global economic recession. Political uncertainty was also another risk factor that could aggravate the Thai economy by undermining the already weak confidence. These factors would not only weaken corporate profitability, but could also push up their financial costs via higher risk premium. In addition, the household sector could become more vulnerable, eventually affecting the stability of financial institutions. Developments of these risks and assessments of their impacts on Thailand's financial stability would be closely monitored to assist the MPC in making appropriate monetary policy decisions going forward.

5. Economic Growth and Inflation Outlook

As expected by the MPC in the October 2008 *Inflation Report,* the Thai economy was slowing down in 2008 Q3. The pace of deceleration was, however, quicker than had been expected, notably from the momentum of net exports: export volume was close to the level assessed by the MPC, but import of raw materials rose sharply, rendering overall volume of imports to be higher than previously assessed. The MPC viewed the surge in imports as coming from the business sector's inaccurate assessment of price trends and economic conditions, leading to orders in excess of the levels required for actual production, which in turn contributed to more-than-expected inventory accumulation. Excluding inventory accumulation, the only growth driver in 2008 Q3 was private expenditure, which began to show more clearly signs of a slowdown. Meanwhile, public expenditure continued to contract.

In 2008 Q4, both domestic and external economic conditions deteriorated markedly. A pronounced downturn in the world economy, which exceeded expectation, made a noticeable impact on Thailand's goods and services exports. In addition, the unexpected shutdown of two international airports from late November to early December, which was the culmination of escalating domestic political tension, disrupted normal in- and outbound travelling activities of foreign tourists. The event led not only to a fall in the number of tourists during high seasons, but also depressed tourist, investor and private sector sentiment, which was already fragile. In light of these developments and despite a significant decline in world oil prices, which should ease pressure on the costs of production, and accommodative monetary policy following quickly subsiding price pressure, overall growth prospects for 2008 Q4 became significantly weaker than had been assessed in the previous *Report*. The softer growth momentum was reflected in the preliminary economic indicators for October and November, which pointed to a substantial contraction in export of goods and services as well as a continued slowdown in private consumption and investment, as concerns heightened over the prospects of the economy and future income. Nevertheless, public expenditures provided for a stronger stimulus than that observed in the previous quarter, partly due to carried-over expenditures from 2008 Q3.

Going forward, downside risks to economic growth increased considerably from the publishing of the previous *Report*. Significant negative factors were contraction in trading partners' economic activities, particularly as major industrialized countries were already in recession and looked likely to take considerably longer than expected to recover, and a probability of prolonged recess in tourist and investor sentiment, a repercussion of earlier domestic political instability. In light of worsening prospects for export revenue and profits in general, lending standards at financial institutions could further tighten up, leading to more severe liquidity constraint for Thai businesses.

Nevertheless, a significant decline in world oil prices, timely and sizeable reduction in the policy interest rate as well as improved political climate after the set-up of the new government, which could bring forward effective implementation of fiscal stimulus measures, should help buoy private sector's confidence somewhat.

Taking into consideration both the downside and upside risks to economic growth, the MPC viewed that even though monetary policy and fiscal policy could prevent a sharp downturn in the period ahead, a slowdown in line with the world economy would be almost inevitable for an open economy with a significant export share of GDP like Thailand. Therefore, the Thai economy should continue to grow at a sluggish pace until the end of 2009, with possibly negative year-on-year growth observed in some intervening quarters mostly from contraction in export and private investment activities. The economy should recover gradually along with the global economy while fiscal stimulus, likely peaking at around mid-2009, provided some cushion. Overall, the Thai economy was expected to grow significantly more slowly in 2008 and 2009 than projected in the previous *Inflation Report* (October 2008) and would take considerably longer to return to its normal growth trend.

In 2008 Q4, price pressures clearly subsided following a sharp fall in world oil prices, with the Producer Price Index (PPI) in decline from the same period of last year in December, falling consumer price inflation as well as markedly subdued 12-month-ahead inflation expectations.

Going forward, price pressure should remain low as prices of oil and other commodities remained lower than they had been during the same period of last year from notably weaker global growth conditions.

In addition, agricultural product prices should decelerate as the cost condition and supply constraint eased. The extension of the government's measures to alleviate the public costs of living would also delay a surge in inflation previously anticipated in 2009 Q1. The MPC therefore assessed that both headline and core inflation would be lower than previously projected over the next 8 quarters with negative headline inflation in some quarters of 2009, primarily on account of falling oil prices.

In the economic and inflation projections for the upcoming periods, the MPC considered the assumptions used with a significant degree of circumspection. The projections below are presented as fan charts, which have been obtained from the macroeconometric model and incorporated the MPC's judgments. The fan charts reflected uncertainties surrounding a range of events and were consistent with the assumption that the policy interest rate remain at the current level of 2.00 per cent per annum from 2009 Q1 to 2010 Q4, lower than the level assumed in the previous *Inflation Report*. The assumption was consistent with the decisions in the MPC meetings after the public release of the previous *Report* on 3 December 2008 and on 14 January 2009 to lower the policy rate altogether by 1.75 per cent per annum.

Forecast assumptions

In forming economic and inflation forecasts for the next 8 quarters, the MPC needed to make the most plausible baseline assumptions on various factors including international economic and financial conditions, world commodity prices, and fiscal conditions. These assumptions are summarized below.

International economic and financial conditions

Over 2008 Q4, the intensified financial turmoil in the US and the euro area caused economic conditions of the G3 countries to worsen by more than anticipated in the previous *Report*. The emerging market economies, especially those in Asia, were noticeably affected by the global economic slowdown through contraction in export activities. As a result, the MPC assessed that, going forward, the global economic downturn would deepen, and oil and commodity prices would be lower than previously anticipated, leading to lower inflationary pressure as well.

The global economy was expected to weaken further while the inflationary pressure would be lower due to declining trends of oil and commodity prices.

The prolonged financial crisis in the US would continue to pose greater risks to the US economy going forward. Thus, the MPC revised down the growth assumption for the US economy throughout the forecast period.

The **US** economy was progressively subjected to more risks as financial market conditions continued to tighten while the impact on the real economy became increasingly evident. Moreover, in light of the business cycle dating announcement by the National Bureau of Economic Research (NBER) in December 2008, which put the US economy in recession from December 2007, growth momentum over the past year had turned out to be weaker than the MPC had anticipated. As a result, the US economy was more likely to deteriorate by more than previously expected. The MPC thus revised down the assumption on US economic growth for the whole forecasting period with the view that, taking into consideration aggressive monetary policy easing coupled with the new fiscal stimulus package, the US economy was expected to contract on a year-on-year basis from 2008 Q4 until the beginning of 2010 and recover gradually afterwards.

The MPC assessed that the Fed would maintain accommodative monetary policy throughout the forecasting period.

At the meeting on 16 December 2008, the FOMC continued to put monetary policy on an easing path, cutting the Fed funds rate by 75 basis points as well as establishing a target range for the federal funds rate of 0 to 0.25 per cent, the lowest recorded in history, the action that was consistent with other measures to restore market confidence and support the functioning of the financial markets through open market operations and purchases of commercial papers. With worsening economic prospects, the MPC assessed that the Fed would maintain the target range at 0 to 0.25 per cent throughout the whole forecasting period.

The MPC revised down the growth assumptions for the euro area and Japan for the entire forecast period.

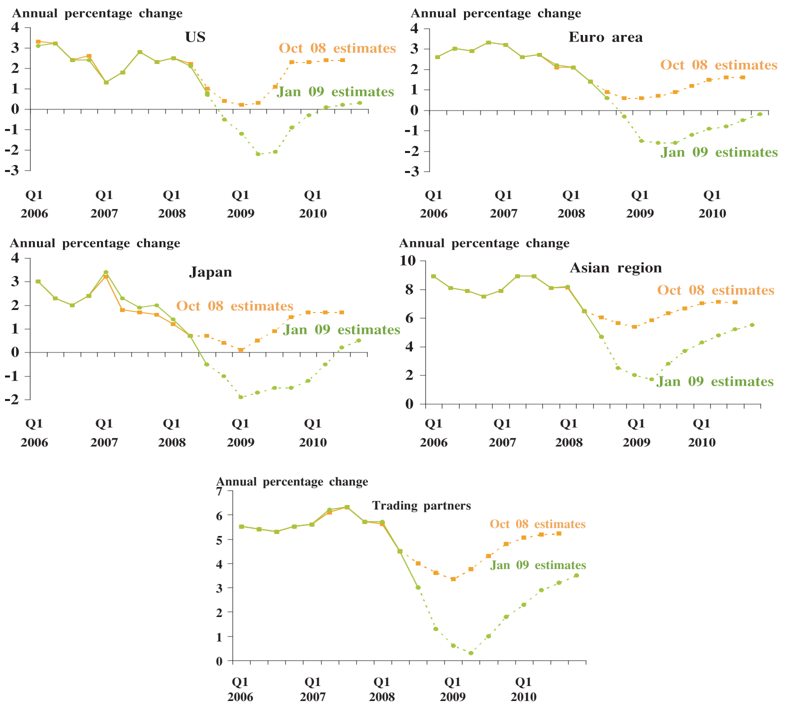
In 2008 Q3, the **euro** area economy grew by 0.6 per cent, significantly lower than expected. Moreover, many economic indicators, including consumer and business confidence, showed deteriorating signs. Going forward, the MPC assessed that financial institutions in the euro area would continue to face heightened risks from large financial exposure with the US, while manufacturing activities would suffer from the global economic downturn. The MPC thus revised down the growth assumption for the euro area economy for the whole forecasting period.

The **Japanese** economy contracted by 0.5 per cent in 2008 Q3 and was expected to weaken further due to sluggish domestic demand and flagging exports. The MPC thus revised down the growth assumption for the remaining forecast period.

The **Asian** economies weakened significantly in 2008 Q3. Moreover, the slowdown was likely to continue into 2008 Q4 for most of the Asian economies from export contraction. Therefore, the MPC revised down the assumptions on Asian economic growth throughout the projected period, in line with the assumptions on major economies, their primary export destinations.

Overall, the MPC assessed that in 2009 and 2010 Thailand's trading partner economies would grow at substantially lower rates than anticipated in the previous *Report*.

Chart 5.1 Assumptions on trading partners' growth



Source: Bank of Thailand estimates

Regional currencies were assumed to depreciate by more than expected against the US dollar due to risk aversion.

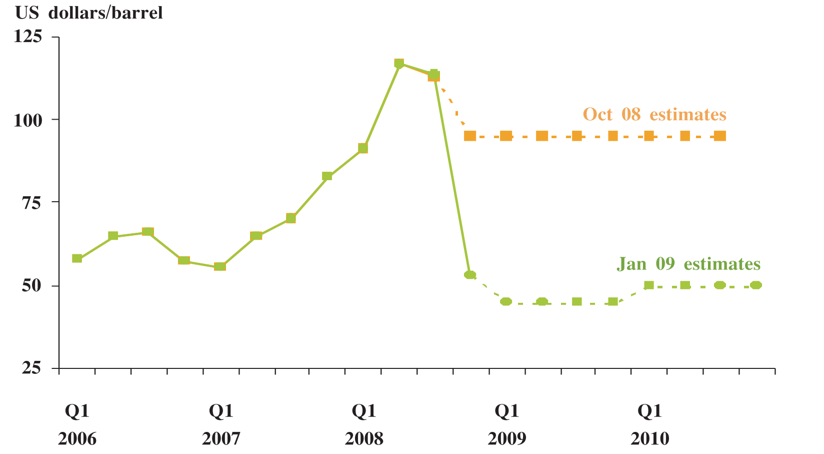
In the previous period, the US dollar appreciated by more than anticipated as global risk aversion intensified and triggered further capital outflows from stock markets in many regions into the US, especially US government bonds. With concerns over the US economic downturn and financial market turmoil, together with heightened uncertainty about the global growth outlook, the MPC viewed that regional currencies would depreciate vis-á-vis the US dollar by more than anticipated in the previous *Report* in 2009, in line with market information implied through trades in derivatives (Risk Reversal).

World commodity prices

The MCP revised down the assumption on Dubai oil price amid anticipated global economic slowdown.

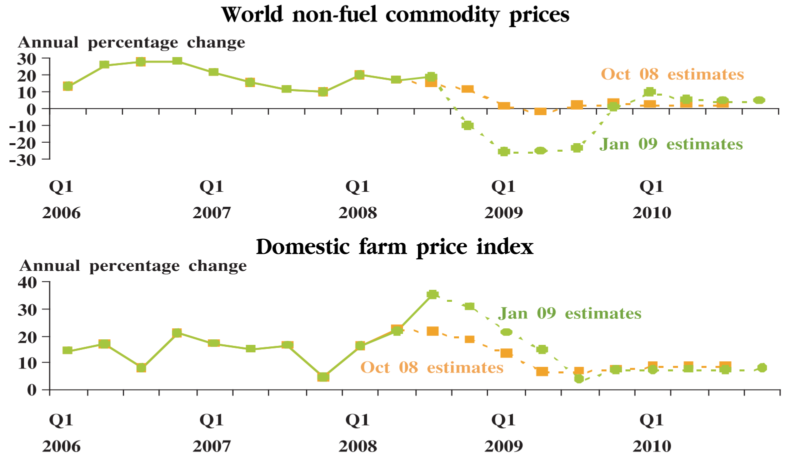
Crude oil prices had continued to drop, reaching levels that were much lower than previously anticipated. Going forward, weakening global economic outlook and global liquidity squeeze would dampen investors' interest in oil as an option for investment. Despite the possibility of OPEC's production cuts, their impact on oil prices should be limited to cushioning the fall, so that prices would not decline significantly further from current levels. The MPC thus revised down the assumption on Dubai oil price for the next 8 quarters.

Chart 5.2 Assumptions on Dubai oil price



Source: Bank of Thailand estimates

Chart 5.3 Assumptions on commodity prices



Source: Bank of Thailand estimates

At the same time, the MPC significantly revised down the assumption on non-fuel commodity prices throughout the projection period, following the sharper-than-expected global slowdown. Nevertheless, they were revised up slightly for 2010 in line with global economic recovery.

The MPC also revised down the assumption on non-fuel commodity prices throughout the projection period.

Meanwhile, the MPC revised up the domestic farm price assumption for 2009 to reflect recent data on agricultural product prices, which were higher than anticipated. However, the assumption for 2010 was revised down in anticipation of a decline in the price of rice and better agricultural production conditions.

The assumptions on the Domestic Farm Price index was revised up for 2009 and down in 2010, close to the previous assumption.

Fiscal conditions

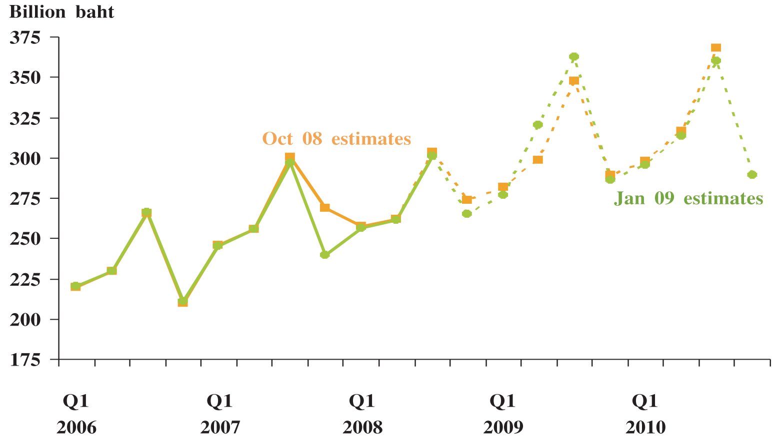
In fiscal year 2008, actual public consumption turned out to be lower than the MPC projected in the previous *Report* whereas it was expected to be 1,225 billion baht in fiscal year 2009, an increase from 1,202.2 billion baht assumed in the previous *Report,* before rising to 1,255.5 billion baht in fiscal year 2010.

The MPC assumed general government consumption for fiscal years 2009 and 2010 to be 1,225 and 1,255.5 billion baht, respectively.

The MPC anticipated that general government investment would register 372.6 and 396.2 billion baht in fiscal years 2009 and 2010 respectively. Meanwhile, state-owned enterprise investment was assumed to be 280.5 and 310.8 billion baht in fiscal years 2009 and 2010. Combining general government and state-owned enterprise

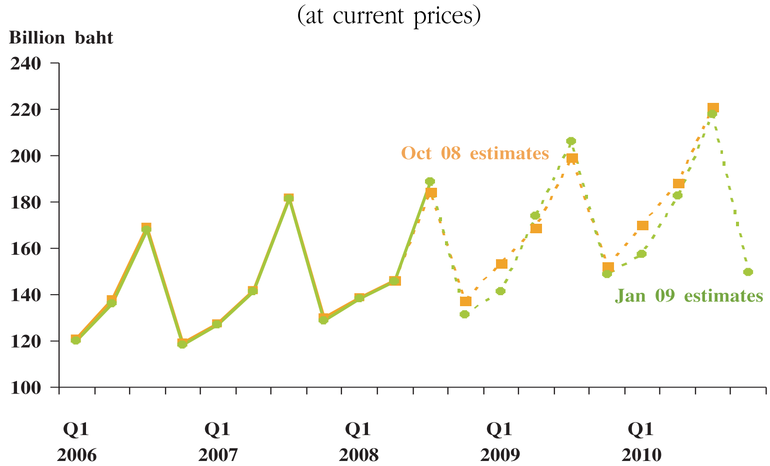
The MPC assumed public investment for fiscal years 2009 and 2010 to be 653.1 and 707 billion baht, respectively.

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



Source: Bank of Thailand estimates

Chart 5.5 Assumptions on public investment
(at current prices)



Source: Bank of Thailand estimates

investment, overall public investment would stand at 653.1 and 707 billion baht in fiscal years 2009 and 2010.

The assumption on government consumption and public investment was revised upward as the supplementary budget of around 115 billion baht became part of the government's economic stimulus package. The assumption on state-owned enterprise investment was revised downward due to lower expected disbursement rate.

Consequently, overall public investment in fiscal year 2009 would be slightly lower than assumed in the previous *Report* at 658.7 billion baht.

Assumptions on minimum wages

The MPC lowered the assumption for minimum wages for Bangkok and the surrounding provinces in 2009 from 206 to 203 baht per day on average. The reduction was due to a significant decline in inflationary pressure coupled with softer employment growth, consequent of a weak economy. In 2010, the MPC raised the minimum wage assumption slightly from 2009 to an average of 207 baht per day in line with economic and inflation outlook.

The MPC revised down the assumptions on minimum wages, in line with a decline in inflationary pressure and a slowdown in economic growth.

Assumptions on inventory accumulation

The MPC anticipated businesses to run down on inventory in many quarters, as prospects of economic slowdown became clearer, causing producers to cut production. As a result, in those quarters, changes in inventory would have negative contribution to GDP.

Output and inflation projections

Output projection

Economic data for 2008 Q3 pointed towards a significantly softer growth momentum than the preceding quarters. In 2008 Q4, the economy encountered further negative disturbances, a more-than-expected slowdown in the world economy and worsened domestic political turmoil, which considerably dented the confidence of foreign tourists, investors and consumers. October and November data indicated a significant slowdown in GDP growth; year-on-year growth could be as low as zero or slightly negative. The sharp downturn in 2008 Q4 was due in part to the closure of two international airports, which had a substantial impact on tourism, and an apparent slowdown in the world economy, which was expected to last for some time.

The Thai economy significantly slowed down in 2008 Q4. Growth could be zero or even negative on a year-on-year basis.

With the assumption that the policy interest rate would remain constant at 2.00 per cent per annum over the next 8 quarters, the MPC assessed that the Thai economy would expand at a considerably lower rate than that projected in the previous *Inflation Report*. Furthermore, the recovery would also be delayed.

Over the next 8 quarters, the Thai economy would expand at a considerably lower rate than previously projected.

The deterioration in the growth prospects was attributed largely to a sharp downturn in major trading partners' economies which would lead to contraction in Thai exports and a slowdown in private consumption through a decline in income and employment as well. Private investment would also contract as a result. Furthermore, a sharp reduction in tourism income receipts around the end of 2008, which could continue into some quarters of 2009, consequent of the airport closure, was another important negative factor for growth in the near term. Erosion in farm income following a reduction in farm prices as world demand softened, eroded financial wealth, particularly from stock prices, as well as more cautious bank lending practices would contribute to lower growth in 2009. Nonetheless, a sharp decline in oil prices, which were expected to remain low, would help lower the costs of production as well as costs of living. Furthermore, a sufficiently sizeable reduction in interest rates would relieve burden on interest payments of businesses and households. Importantly, fiscal measures should support private sector confidence and help maintain positive overall economic growth in 2009, setting stage for a gradual recovery in 2010, in line with the world economy.

The MPC revised the forecasts of individual GDP components as follows.

Private consumption was expected to grow at a lower rate than previously projected while private investment would contract in 2009.

Private consumption was expected to grow at a lower rate than previously projected for 2009. The slowdown in private consumption could be attributed to contraction in export income and weaker farm income, negative wealth effect that originated from a significant decline in the value of household assets, and low consumer confidence from heightened economic uncertainties, including concerns over future employment and income prospects. At the same time, lower oil prices and interest rates together with transfers from the government's supplementary budget should help support private consumption. With world economic recovery projected to begin in early 2010, the export sector, a crucial sector for employment, would gradually pick up; and with that, consumers' income and sentiment, thus allowing private consumption to show a clear sign of recovery in 2010.

Private investment was expected to contract in 2009, a different picture from that painted in the previous *Report,* which forecasted a low but positive expansion. The contraction could be attributed to significantly weakened overall economic outlook and investor confidence. Moreover, low capacity utilization rate indicated a certain degree of excess capacity in the economy and therefore less need for investment to expand production capacity for some time. At the same time, despite reduction in the policy interest rate and commercial banks' reference lending rates, borrowing costs of businesses could edge higher, as commercial banks might perceive higher credit risks from worsening economic outlook and require larger risk premium as a result. Indeed, commercial banks had become more prudent with credit extension. In this light, businesses would be more likely to hoard cash to stay liquid and curtail investment expenditure, which would weaken private investment compared to previous projection. However, investment should recover and accelerate progressively as economic prospects became firmer in 2010 and economic uncertainty abated.

Government spending would be an important contributor to GDP growth in 2009. Real public expenditure increased by more than previously projected partly from the rise in nominal spending with mid-year supplementary budget and acceleration in budget disbursement to meet target going forward. Meanwhile, lower prices of goods and services as well as costs of production enhanced the government's purchasing power. Fiscal stimulus would moderate, however, in 2010 as nominal spending, particularly on government consumption, declined.

Exports of goods and services were projected to contract in the first three quarters of 2009 and recover around the end of the year.

Exports of goods and services were projected to contract considerably in 2009 as global growth weakened significantly. The airport closure would also have a direct impact on exports of services in 2008 Q4, which could last until the end of 2009. However, the weakening of the baht, in line with regional currencies, together with the decline in relative inflation would lead to Thai baht real exchange rate depreciation, which should cushion the fall in exports. Such positive factors were not expected to compensate for deteriorating external demand prospects, however. Overall, exports of goods and services were highly likely to contract from 2008 Q4 until 2009 Q3 and start to recover from 2009 Q4 onwards, in line with the pick-up in global growth and improved tourist sentiment.

Imports of goods and services were projected to contract significantly in 2009.

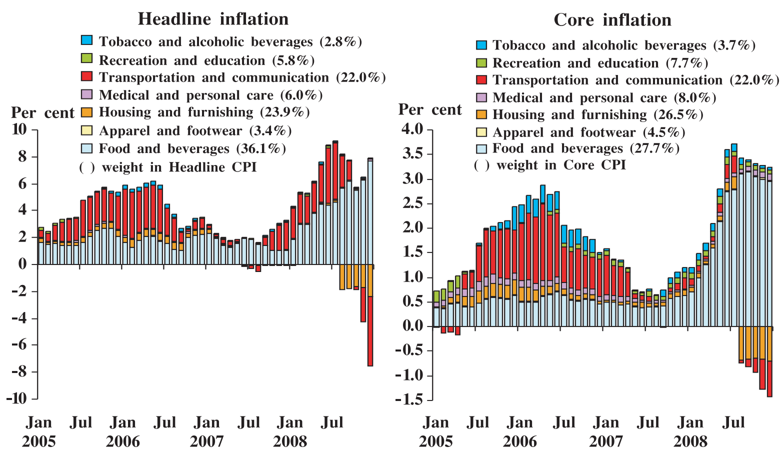
Imports of goods and services were projected to contract substantially in 2009 in line with negative growth in exports and private investment as well as a slowdown in private consumption, which would lead to lower demand for goods and raw materials used in production. However, the MPC assessed that imports of goods and services should expand again from the end of 2009 onwards following a recovery in exports and private consumption.

The projected contraction in exports and imports in 2009 led the MPC to expect the current account (including reinvested earnings) to be in surplus in 2009 before turning into slight deficit or close to balance in 2010.

Inflation projection

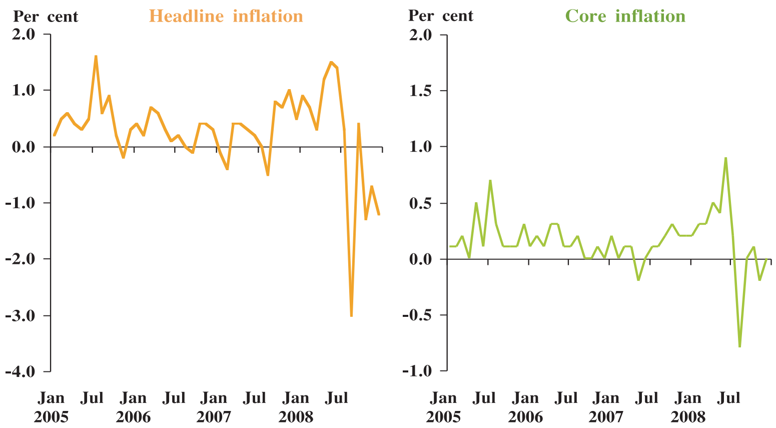
In 2008 Q4, headline and core inflation declined significantly and on the whole were considerably lower than previously projected by the MPC. Measures to ease the costs of living as well as lower pass-through from production costs to final product prices, consequent of lower demand pressure, contributed mainly to the fall in core inflation over the period. Headline inflation largely moderated both from the government measures and the sharp decline in oil prices, even as prices of raw food, particularly vegetables and fruits, accelerated

Chart 5.6 Contribution to headline and core inflation



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

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



Source: Calculations by the Bank of Thailand

as a resulf of a flood. The easing of the price pressures caused public inflation expectations to fall noticeably.

Over the next 8 quarters, the MPC expected inflationary pressure to ease significantly, compared to previous forecast, on account of lower oil and commodity price assumptions as well as delayed adjustment in the minimum wage. Price pressure from wage cost would be minimal as weaker employment prospects and moderate changes in the costs of living after the recent minimum wage adjustment in mid-2008 would prevent the rise in minimum wage in the near term. Substantially weaker domestic demand would undermine businesses' ability to raise prices of goods and services. Furthermore, most of the government's measures to lower the costs of living would be extended for another 6 months.

Both headline and core inflation were expected to be lower than previous projections throughout the forecast period.

The MPC viewed that headline inflation could become negative in certain quarters of 2009, particularly in the months that oil prices would be appreciably lower than the same period of last year. However, the MPC assessed that the sharp disinflation would not develop into deflation, as it would not reflect a broad-based decline in the general price level but was caused by extreme movements in prices of oil. Moreover, such disinflation would not lead to a persistent contraction in private spending, as expectations that negative inflation would be prolonged was absent. (See box for further details). Going forward, the MPC expected inflation to rise, in line with the recovery in economic activities from the last quarter of 2009 onwards.

Assessment of risks

The output and inflation projections given above were based on assumptions that the MPC considered most plausible while holding the policy interest rate unchanged. At the same time, the MPC deemed that many risks, from both internal and external sources, could cause the projections to deviate from the base case. Important risk factors are as follows.

Risk factors in the output projection

Important risk factors that could lead to lower growth projection than that painted by the baseline scenario were lower trading partners' growth or delayed recovery as the financial crisis in the US and Europe continued to play out. Recession in major industrial countries could impact on Thai exports as well as those of regional countries' by more than expected.

Furthermore, the adverse impact from the airport closure in 2008 Q4 on tourist and investor confidence could be more lasting than expected. Although the actual closure lasted only around 1 week, it attracted worldwide attention. Weakened confidence could delay recovery in tourism and caused growth to be lower than that projected in the baseline case.

Another important downside risk factor was the government's inability to disburse the budget at the high rate assumed in the base case on account of ongoing, political uncertainty, with risk concentrating in the first 2-3 quarters of fiscal year 2009.

World oil price remained a risk factor that could lead to positive or negative deviation from the baseline GDP growth projection. Dubai oil price could be higher than the baseline assumption from supply problems; for example, OPEC could cut production to support prices. Moreover, high-cost wells could face closure while geopolitical risk, middle-east political tension and cancellation or delay of plans to expand production capacity could lead to supply constraints in the periods ahead.

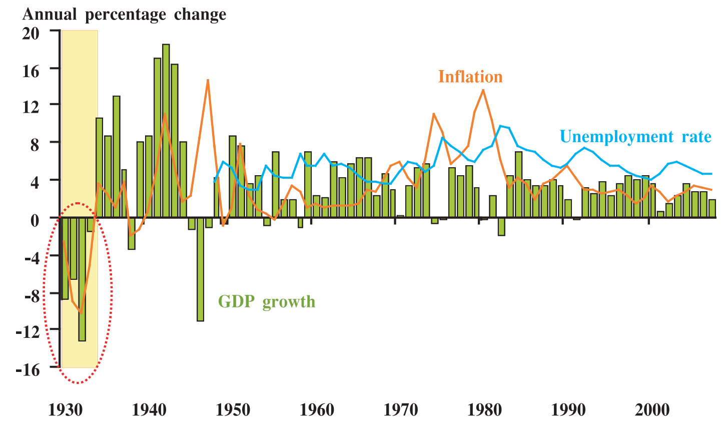
Deflation

The world economy has slowed down, several economies are in recession and it is more likely that it will take some time before the world economy would recover. Consequently, the prices of commodities, especially oil prices, have declined substantially. This sharp decline has led headline inflation to fall in most economies and to rising concerns about the possibility of deflation.

What is deflation?

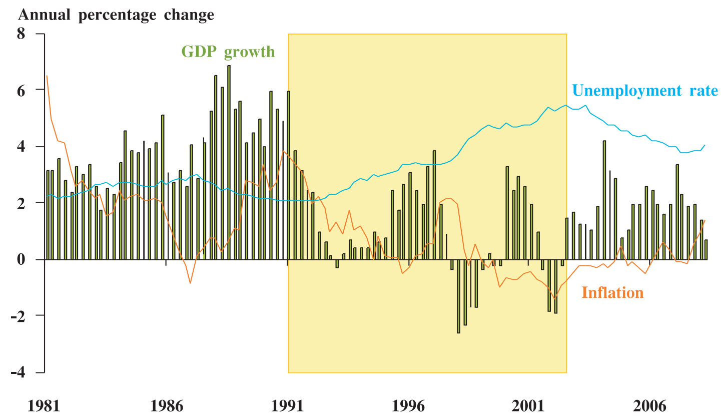
In theory, the decrease in the general price level of goods and services, or negative inflation, could occur from both supply factors, such as productivity expansion, and demand factors, such as severe and prolonged economic recession, possibly caused by excessively tight economic policies. Nevertheless, negative inflation would be considered "deflation" when the decline in the general price level is broad-based. The decrease in prices of goods or services in a specific sector of the economy does not constitute deflation. In addition, the rate of price decline must be persistent and result in public expectation that prices will continue to decline in the future. In this situation, consumers and businesses will likely postpone their purchasing and investment decisions. However, there is no consensus on what the duration of negative inflation would be to classify it as "deflation". In general, a short period of negative inflation would not be called "deflation". Furthermore, deflation usually results from economic recession and low levels of confidence which cause monetary policy to become less effective as a stabilizing tool[1/] as the public is not willing to spend even when interest rates are very low.

Chart 1 United States: The Great Depression (1930s)



Source: Bloomberg

Chart 2 Japan: The Lost Decade (1990s)



Source: Bloomberg

[1/] Speech on "The euro after four years: Is there a risk of deflation?", Otmar Issing, 2 December 2002 and Speech on "Deflation: Making sure it doesn't happen here", Ben S. Bernanke, 21 November 2002.

The US and Japan had an experience with deflation in the 1930s and 1990s, respectively. In the case of the US, the deflationary period started from the burst of stock price bubbles and the financial crisis, which was to a certain extent a result of tightening monetary policy to curb stock price rises in the prior period. In addition, fiscal policy was not deployed in time to help stimulate the economy. This brought about the Great Depression. As for Japan's case, the problem originated from the sharp decline in property and stock prices, which contributed to considerably high non-performing loans in the banking sector. Moreover, monetary policy easing and expansionary fiscal policy were too slow and not effective in stimulating the real economy. The Asian crisis in 1997 was a crucial factor that further pushed the Japanese economy into a lengthy period of deflation.

In the present days, according to Consensus forecasts, inflation in industrial and Asian economies would decline in the next several quarters. However, demand is not expected to drop to very low levels for such an extensive period that would put the world in deflation-like condition. Factors that would help avoid deflation are the relatively solid economic fundamentals before the current crisis, as reflected by the generally strong financial positions of the corporate sector as well as the aggressive stances of monetary and fiscal policies in boosting the economies. The exception is Japan, which has a greater risk of entering a deflationary period ahead because internal and external demand is expected to contract more severely than that faced by other economies. Moreover, the Japanese economy had also recovered from the dotcom crisis relatively more slowly compared to others and since then it has been heavily reliant on external demand.

Table: World inflation forecasts

Country (Per cent)	2008	2009				2010	
		Q1	Q2	Q3	Q4	Q1	Q2
World inflation	4.8						
US	4.0	1.1	0.1	-1.0	0.9	1.7	1.9
EU (Euro zone)	3.3	1.7	1.1	0.8	1.5	1.8	1.8
Japan	1.6	0.9	0.3	-0.6	-0.3	-0.3	-0.1
China	9.3	2.0	1.8	1.9	2.3	2.7	2.6
Hong Kong	2.9	2.7	2.2	2.4	2.3	2.5	1.8
South Korea	4.0	4.4	3.0	2.3	2.6	2.3	2.4
Singapore	2.0	3.0	1.8	1.4	1.2	1.7	2.1
Malaysia	5.3	5.5	3.4	0.2	1.5	1.5	1.9
Thailand	4.3	2.1	0.0	0.5	2.4	2.1	2.4

Source: Consensus Forecast (70 countries) as of 8 December 2008

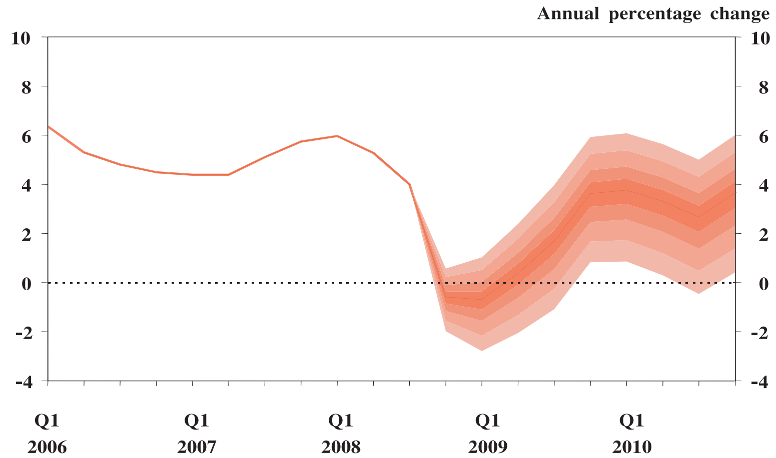
In Thailand, although headline inflation has declined rapidly since September 2008, such decline has been on the back of a sharp fall in oil prices coupled with the government measures to help ease the rising costs of living. Once excluding prices of oil and those affected by the above measures, the general price level has not declined. Thus, there is no clear sign of deflation in Thailand going forward. Although headline inflation in the near term may enter the negative zone, it would be because of the large decrease in the prices of oil from considerably higher levels in Q2 and 2008 Q3. In this light, the MPC assessed that the probability of deflation would be low, as appropriate and timely expansionary fiscal and monetary policies would help to prevent the deteriorating domestic demand from inducing deflation.

Compared to the baseline case, higher oil prices would reduce business sector's profit and consumer's purchasing power, as well as undercut the real stimulus from government spending. On the other hand, Dubai oil price could be lower than the baseline case, which would have the opposite impact and raise GDP growth beyond that projected in the baseline case. The MPC allowed that the high-case scenario would be consistent with the baseline Dubai oil price plus 1.5 standard deviations, which would raise the oil price average to 61 and 75 US dollars per barrel in 2009 and 2010, respectively. Meanwhile, the low-case scenario would be equivalent to the baseline assumption minus 1.0 standard deviation, which would be equivalent to average oil prices of 34.4 and 33.6 US dollars per barrel in 2009 and 2010, respectively.

An additional upside risk factor for economic growth was the possibility that industrial countries' economic stimulus packages could turn out to be effective in preventing the world economy from slowing down as much as assumed in the baseline case. Additional budget deficit in Thailand and disbursement acceleration on non-budgetary spending could raise the growth projection beyond the baseline case. In particular, should government investment projects focus on needed infrastructure, businesses might be induced to invest and private investment recovery could quicken by mid-2010.

Overall, the MPC viewed that uncertainties had increased from the previous *Report,* and gave considerably more weight to the downside

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, reflecting larger downside risks than upside risks.

risks than to the upside risks. As a result, the fan chart is slightly wider than that of the previous *Report* and is skewed downwards to reflect larger downside risks.

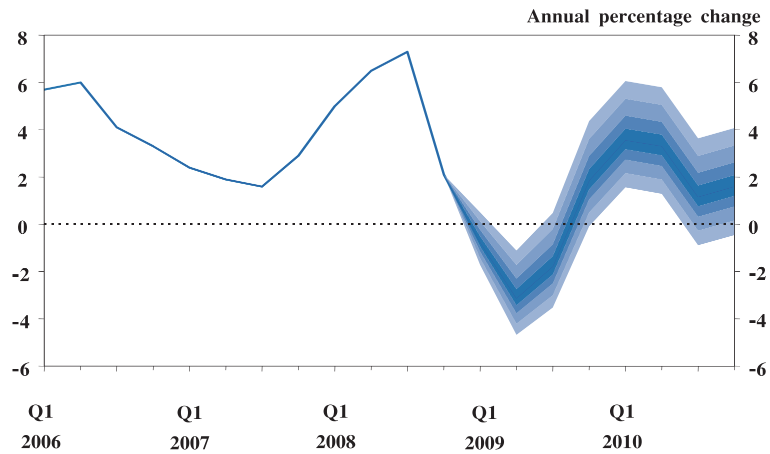
Risk factors in the inflation projection

The MPC assessed that the major risk factor that would cause inflation to be higher than the baseline projections would come from the oil price trajectory. If the world economy slowed down by more than the base-case assumption, world oil and commodity prices could be lower than assumed in the baseline scenario as well. Moreover, a surge in agricultural production, rice in particular, in response to the earlier price rise could lead to a large supply of agricultural products, depressing the domestic farm price to levels lower than the baseline scenario.

Overall, the MPC viewed that uncertainties surrounding the baseline inflation forecast remained high throughout the forecast horizon. In the near term, uncertainties arose partly from the impact of the government's measures to ease the costs of living. At the time of forecast, the target coverage of the free electricity usage scheme as well as measures to subsidize educational expenses were still unclear. Also unclear was how the prices would be recorded by the Ministry of Commerce. Moreover, the MPC assessed that the upside risks should outweigh the downside risks. Therefore, the fan chart for headline inflation is skewed upwards throughout the forecast horizon, consistent with the risks surrounding the oil price assumption. The fan chart for

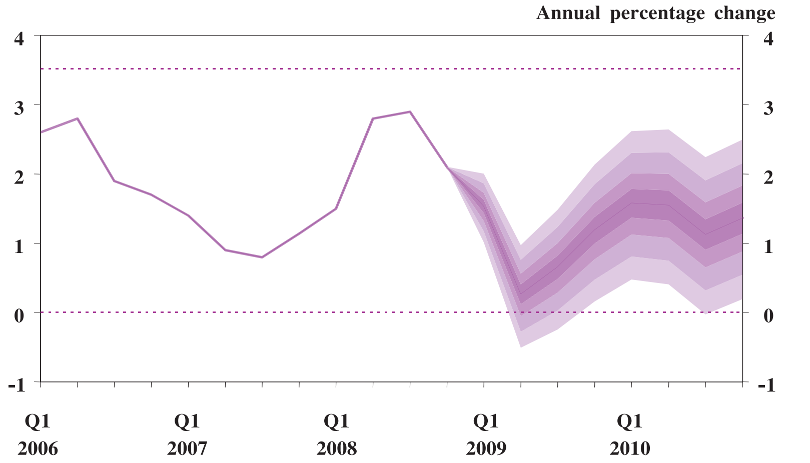
The fan chart for headline inflation is skewed upwards from risks to oil prices while the fan chart for core inflation is skewed downwards in line with the fan chart for economic growth.

Chart 5.9 Headline inflation forecast



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

Chart 5.10 Core inflation forecast



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

core inflation, on the other hand, is skewed downwards throughout the projection period, consistent with the fan chart for economic growth, which has more downside than upside risks.

There was a sizeable probability that core inflation would be lower than zero in 2009 Q2 and Q3. However, the MPC viewed that core

Table 5.1 Probability distribution of GDP growth forecast

Unit: %	2008	2009				2010			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
< (-0.5)	59	61	31	11	1	1	2	6	2
(-0.5) - 0.0	22	15	13	7	1	1	2	4	2
0.0 - 0.5	13	11	14	9	2	2	3	5	3
0.5 - 1.0	5	7	14	11	3	3	5	7	4
1.0 - 1.5	1	3	11	12	5	5	7	9	6
1.5 - 2.0	0	1	8	13	7	7	8	10	7
2.0 - 2.5	0	0	5	12	9	9	10	11	9
2.5 - 3.0	0	0	2	10	11	10	11	12	10
3.0 - 3.5	0	0	1	7	12	12	12	11	11
3.5 - 4.0	0	0	0	4	13	12	11	9	11
4.0 - 4.5	0	0	0	2	11	12	10	7	10
4.5 - 5.0	0	0	0	1	9	10	7	4	9
5.0 - 5.5	0	0	0	1	7	7	5	3	6
5.5 - 6.0	0	0	0	0	4	5	3	1	4
> 6.0	0	0	0	0	4	5	3	1	5

inflation would revert back to be within its target range going forward given the cumulative effect of accommodative monetary policy. The return of core inflation to its target in the short run depends on the assumption that the government would not extend the current measures to ease living costs beyond July 2009.

Output growth for 2009 and 2010 was projected to be in the ranges of 0-2 and 2-4 per cent, respectively.

With regard to the forecast probability distribution for 2008 and 2009, the MPC projected that output growth, obtained from averaging the darkest forecast range of each quarter over the year, would be in the ranges of 0 - 2 and 2 - 4 per cent with probability of approximately 84.3 and 75.9 per cent, respectively.

Headline inflation for 2009 and 2010 was projected to be in the ranges of -1.5 - 0.5 and 1.5 - 3.5 per cent, respectively

Headline inflation was projected to average between -1.5 - 0.5 per cent in 2009 with probability of approximately 90.4 per cent, and between 1.5 - 3.5 per cent in 2010 with probability of approximately 82.4 per cent. The current projection was significantly lower than the previous projection mainly because of the downward revision in oil price assumptions.

Table 5.2 Probability distribution of headline inflation forecast

Unit: %	2009				2010			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
< (-4.0)	0	14	2	0	0	0	0	0
(-4.0) - (-3.0)	0	32	10	0	0	0	0	0
(-3.0) - (-2.0)	2	31	25	0	0	0	1	0
(-2.0) - (-1.0)	28	17	30	1	0	0	4	2
(-1.0) - 0.0	50	5	21	5	0	0	12	8
0.0 - 1.0	18	1	9	16	2	3	24	19
1.0 - 2.0	2	0	3	26	8	10	27	27
2.0 - 3.0	0	0	0	25	20	23	19	24
3.0 - 4.0	0	0	0	17	27	27	9	13
4.0 - 5.0	0	0	0	8	23	21	3	5
> 5.0	0	0	0	3	20	16	1	2

Core inflation for 2009 and 2010 was projected to be in the ranges of 0.5 - 1.5 and 1 - 2 per cent, respectively

Meanwhile, the MPC projected core inflation in 2009 to average within the range of 0.5 - 1.5 per cent with probability of approximately 95.9 per cent. As for 2010, it was projected to average within the range of 1 - 2 per cent with probability of approximately 84.9 per cent.

Table 5.3 Probability distribution of core inflation forecast								
Unit: %	2009				2010			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
< 0	0	30	12	3	1	1	6	3
0.0 - 0.5	0	42	28	11	5	5	13	9
0.5 - 1.0	5	24	36	25	14	15	25	19
1.0 - 1.5	43	4	19	32	27	26	28	28
1.5 - 2.0	47	0	4	21	29	27	19	24
2.0 - 2.5	5	0	0	7	18	17	8	13
2.5 - 3.0	0	0	0	1	6	6	2	4
3.0 - 3.5	0	0	0	0	1	1	0	1
> 3.5	0	0	0	0	0	0	0	0

Forecasts by research houses

Output growth projections for 2009 from various research houses polled by Reuters (Thailand) averaged at 2.4 per cent, lower than the previous projection of 5.0 per cent on 30 September 2008. For 2010, research houses expected the Thai economy to recover and expand at a higher rate than 2009 with an average of 3.9 per cent.

Table 5.4 GDP growth forecasts by various research houses				
	30 Sep 08		11 Dec 08	
	2008	2009	2009	2010
Capital Nomura	4.9	4.8	3.0	n.a.
Kasikorn Research	5.0	5.0	3.5	4.5
Phatra Securities	5.1	4.7	3.3	4.0
SCB Securities	5.1	5.3	2.5	4.0
Stanchart	4.7	4.5	3.0	4.5
TISCO Securities	5.2	5.4	-0.8	2.5
Average	4.9	5.0	2.4	3.9
NESDB	5.2-5.7[1/]	n.a.	3.0-4.0[2/]	n.a.

[1/] Estimated on 25 August 2008 when GDP figures for 2008 Q2 were released
[2/] Estimated on 24 November 2008 when GDP figures for 2008 Q3 were released
Source: Reuters, NESDB and average figures calculated by the Bank of Thailand

At the same time, headline inflation for 2009 was forecasted to average at 2.6 percent, lower than the average of the previous survey at 4 percent, following a decline in world oil prices and weaker demand. Meanwhile, headline inflation forecast for 2010 averaged at 3.5 percent.

Table 5.5 Headline inflation forecasts by various research houses

	30 Sep 08		11 Dec 08	
	2008	2009	2009	2010
Capital Nomura	7.2	4.0	4.0	n.a.
Kasikorn Research	6.3	3.0	2.3	3.0
Phatra Securities	6.5	3.7	3.0	3.0
SCB Securities	6.3	3.6	2.0	5.0
Stanchart	6.4	3.8	2.5	3.0
TISCO Securities	6.5	4.1	1.6	3.4
Average	6.7	4.0	2.6	3.5
NESDB	6.5-7.0[1/]	n.a.	2.5-3.5[2/]	n.a.

[1/] Estimated on 25 August 2008 when GDP figures for 2008 Q2 were released
[2/] Estimated on 24 November 2008 when GDP figures for 2008 Q3 were released
Source: Reuters, NESDB and average figures calculated by the Bank of Thailand

6. Conclusion

In 2008 Q4, the impact of the global financial crisis began to be felt in the real sectors of major industrial economies. This subsequently had an adverse impact on exports of countries in the region. Thailand's exports contracted, compared to the same period in the previous year. The ongoing domestic political conflict, which culminated in the closure of important airports at the end of November until early December, further eroded the already fragile confidence of consumers and investors. This incident also led to a drastic contraction of income from tourism. As a result, the Thai economy in 2008 Q4 was unlikely to exhibit growth, and could possibly contract slightly compared to the same quarter of last year. This led to a lower-than-expected expansion of the Thai economy in 2008 and slower growth than forecasted in the previous *Report*. Additionally, going forward, risks to growth increased considerably from the MPC's assessment in the previous *Report,* reflecting in the fact that the MPC noticeably adjusted downward the forecast for economic growth for both 2009 and 2010.

Inflation decelerated considerably as a result of the rapid reduction in oil prices. This was in tandem with the slowdown of the world economy as well as softer domestic demand, which also helped reduce inflationary pressure. The MPC was of the view that the overall risks to inflation were expected to decline dramatically. This was in accordance with the downward adjustments of the forecast of core and headline inflation for the next eight quarters.

Given the aforementioned economic prospects, the MPC deemed that inflation was expected to stay fairly low for some time. As such, monetary policy could be eased further to support economic recovery, particularly as fiscal policy would take time to implement and show its efficacy. The MPC therefore decided to reduce the policy interest rate by 1.00 per cent from 3.75 to 2.75 per cent per annum at the meeting on 3 December 2008 and further reduced the policy interest rate by 0.75 per cent per annum to 2.00 per cent per annum at the meeting on 14 January 2009.

Report: “Economic/Business Information Exchange Program Between the Bank of Thailand and the Business Sector”

As of 30 December 2008

Overall summary

From the Economic/Business Information Exchange Program between the Bank of Thailand and 137 business firms throughout the country during 2008 Q4*, it was revealed that overall economic conditions continued to slow down. The deterioration of world economic conditions and domestic political uncertainties significantly affected business operations and investment decisions. Businesses' capacity utilization began to fall while signal of labour market weakening started to surface. If the deterioration in economic conditions was to be prolonged and businesses could not adapt to new conditions without shedding labour, more workers might be laid off in the next period. As for the economic outlook for the first quarter of 2009, businesses expected that private domestic demand, both consumption and investment, would continue to slow down as a result of fragile consumer confidence and a continued decline in overall exports, although demand from emerging economies were still on the rise.

- **Private consumption.** Private consumption slowed down progressively from the previous quarter due to the deteriorating economic conditions and fragile consumer confidence, as reflected by lower sales of goods and services particularly in the food and drinks, steel, cars and motorcycles, leather, textile and garment, electronic, chemical products, and real estate industries.
- **Private investment.** Private investment contracted from the previous quarter as political problems intensified, and world economic conditions weakened, which caused a decline in business sentiment. Furthermore, financial institutions continued to tighten credit standards for corporate loans, which caused businesses to postpone investment.
- **Exports.** Overall exports began to shrink in 2008 Q4, following a considerable fall in demand from major trading partners. It was noted that small and medium-sized (SMEs) exporters were more severely affected by the decline in export activities than large exporters.
- **Employment.** In 2008 Q4, businesses affected by the deteriorating economic conditions attempted to sustain operations by reducing working hours and the number of sub-contract workers, not by retrenching permanent workers. Workers that had been laid off from closed-down factories could be reemployed by new factories. Besides, some of those workers who became unemployed could find employment in the agricultural sector.
- **Costs and prices.** Business operating costs decreased from the previous quarter mainly due to sharply falling oil prices and businesses' success at operating cost reduction. However, prices of goods and services had not been significantly adjusted downward because businesses had been saddled with the cost burden in the previous period and could not afford to reduce prices significantly.
- **Real estate.** Demand slowed down marginally in the real estate sector, with worsening overall economic conditions and declining consumer confidence. Supply also contracted. The number of new housing project launches in the second half of 2008 started to decline, as compared to the previous year, in line with cement sales that had been dropping continuously since 2007. On credit standard, financial institutions were more cautious in making loans to real estate developers.
- **Credit.** Both the demand for long-term loans and large corporate loans in 2008 Q4 remained at almost the same level as in the previous quarter while the demand for short-term loans and loans to small and medium enterprises (SMEs) expanded slightly from the previous quarter. Nonetheless, financial institutions continued to tighten their credit standard from the level experienced in the previous quarter, resulting in a decrease in overall approval of all types of loans.
- **Business limitations and risk factors.** Businesses had become more concerned with the decrease in demand from both domestic and foreign markets even though production costs had dramatically subsided, thanks to falling oil prices. This led some businesses to try to reduce production costs further through enhanced efficiency, search for new markets, diversification of export destinations or concentrating more on domestic market.

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* Including responses from business sentiment index survey and special surveys from more than 572 businesses.

Appendix: Economic Models at the Bank of Thailand[1/]

The conduct of monetary policy under the inflation targeting framework attaches particular importance to analyses and forecasts that are accurate and well supported by economic rationale, so that appropriate monetary policy can be effectively implemented to safeguard economic and financial stability. In this endeavor, the MPC requires economic models as tools to provide forecasts of economic growth and inflation as well as to assess the impact of various economic disturbances and macroeconomic policies. The MPC also uses economic models as tools to structure its communication with the public about economic projection as well as the rationale behind their policy decision.

Useful economic models should aid the MPC and Bank of Thailand staff in gaining insights into the dynamics of the economy, which arise out of complex interactions between different economic players, and hence helping the MPC to obtain accurate forecasts. Nevertheless, given that no single model can accomplish all the tasks required, the MPC stresses the importance of using a variety of models to complement each other throughout the forecasting and policy analysis process in the formulation of monetary policy and emphasizes the need to develop models of different types, a summary of which is given as follows.

1. The Bank of Thailand Macroeconometric Model (BOTMM) is the main model the MPC uses in producing forecasts. It was first published in the July 2000 *Inflation Report* and has been continuously developed. BOTMM is a system of equations that represents the workings of the economy through various interdependences between key economic variables. Such relationships-guided by theory and obtained from econometric estimations based on an error correction mechanism using quarterly data since 1993-capture

[1/] Details appear on the BOT Website (www.bot.or.th) under Monetary Policy/ Understanding Monetary Policy /Macroeconomic Model.

dynamics of variables in the short run and the long run. The model, which consists of 25 behavioural equations and 44 identities, covers four important sectors; namely, the real sector, the monetary sector, the external sector, and the public sector. BOTMM has a particularly important role in the forecasting process, as well as in the assessments of the impacts of changes in the policy interest rate and in the projected paths of exogenous variables such as public spending, oil prices, and the outlook of trading partners' economies. Nonetheless, limitations of BOTMM lie in addressing policy questions related to structural changes, such as the impacts of changes in tax rates or policy regime shifts, because a model of this type characterizes the behavior of economic units that is not entirely invariant to changes in government policies and in particular is silent on explicit expectation formation by those whose behaviour it attempts to forecast.

2. A small semi-structural model has a structure that is consistent with the New Keynesian theory. It consists of only five behavioural equations that capture the domestic economy through a few important variables-namely, the output gap, inflation, the policy interest rate, the exchange rate, and the current account balance and another set of four equations to capture the dynamics of the foreign economy. Parameters of the model are estimated using the Bayesian approach, which integrate the understanding of the structure of the economy with statistical estimation. A small semi-structural model is mostly used in analyzing the impact of various shocks on important variables. Due to its compact size, the tractability of this model is a key feature as it facilitates communication of the underlying economic stories and intuition.

3. A dynamic stochastic general equilibrium (DSGE) model has a core structure in general equilibrium analysis that is grounded in growth and business cycle theory. This modelling approach emphasizes optimization by households and firms subject to various kinds of constraints in deriving consumption and investment paths that have clear theoretical foundations. A DSGE model is suitable for describing the working of the economy, thanks to coherent structural relationships within the model. In particular, the model's structural parameters are calibrated to capture salient features of the Thai economy, thus obviating the need for parameter estimation that usually becomes a problem given data insufficiency and the presence of important structural breaks. Furthermore, given that the model parameters are structural, they are not affected by changes in policy, rendering for more accurate model dynamic than those obtained from other types of models especially in the face of changes in economic policies.

4. Other economic models used at the Bank of Thailand include models such as the corporate sector model and the household model, both of which are couched within the macroeconometric modeling paradigm similar to BOTMM, and vector autoregressive models (VARs) estimated using historical data.

The MPC uses results from various types of models, each of which has its own comparative advantage, along with policymakers' judgment throughout the forecasting and policy analysis process in order to obtain the appropriate monetary policy going forward.