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

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

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 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.

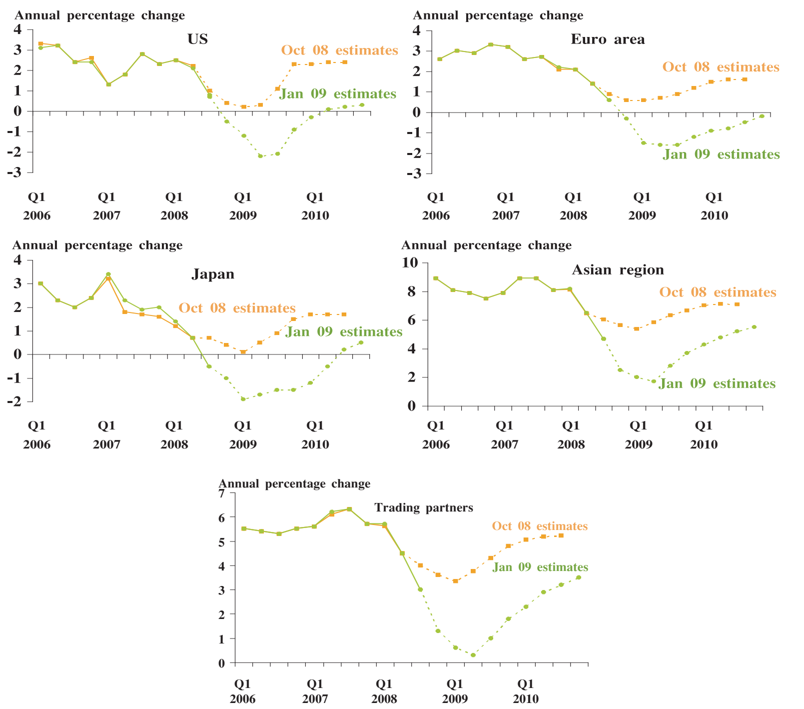
In 2008 Q3, the **euro** area economy grew by 0.6 per cent, significantly lower than expected. Moreover, many economic indicators, including consumer and business confidence, showed deteriorating signs. Going forward, the MPC assessed that financial institutions in the euro area would continue to face 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.

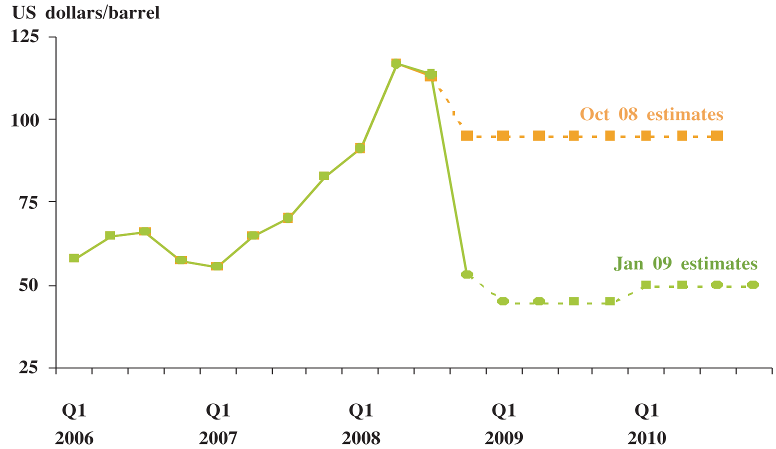
In the previous period, the US dollar appreciated by more than anticipated as global risk aversion intensified and triggered further capital outflows from stock markets in many regions into the US, especially US government bonds. With concerns over the US economic downturn and financial market turmoil, 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.

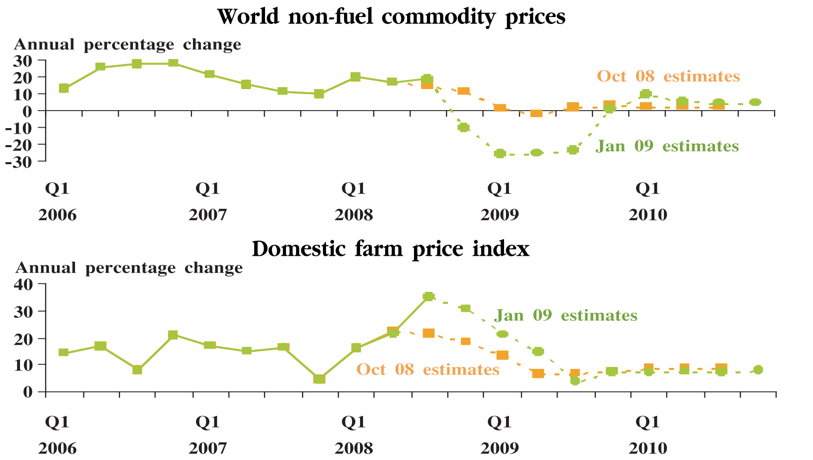
Crude oil prices had continued to drop, reaching levels that were much lower than previously anticipated. Going forward, weakening global economic outlook and global liquidity squeeze would dampen investors' interest in oil as an option for investment. Despite the possibility of OPEC's production cuts, 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

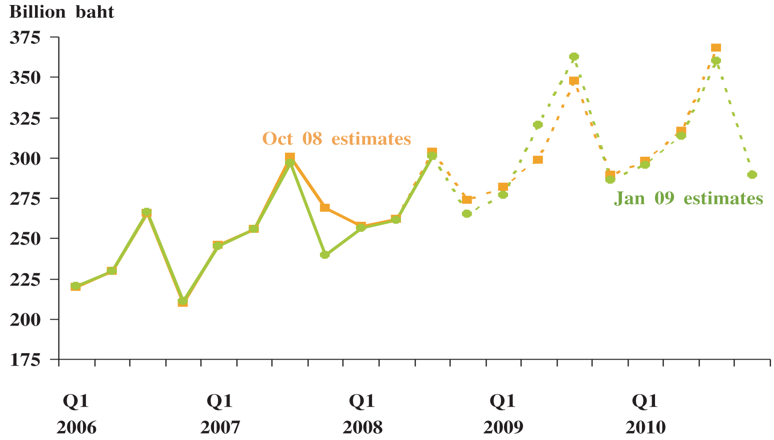
In fiscal year 2008, actual public consumption turned out to be lower than the MPC projected in the previous *Report* whereas it was expected to be 1,225 billion baht in fiscal year 2009, an increase from 1,202.2 billion baht assumed in the previous *Report,* before rising to 1,255.5 billion baht in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

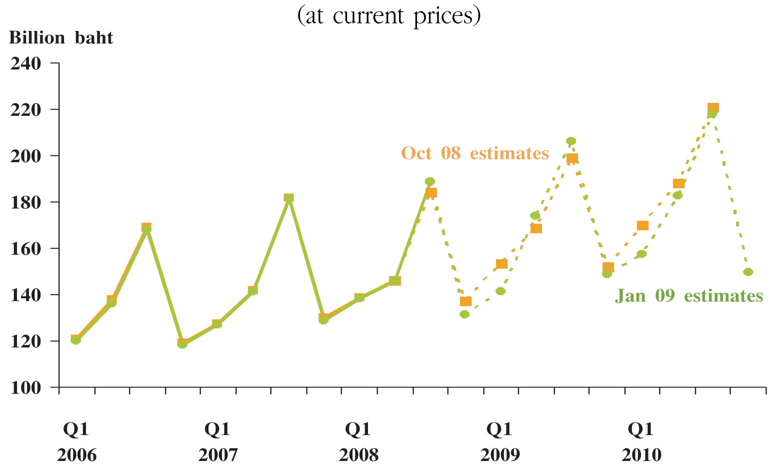
The MPC assumed public investment for fiscal years 2009 and 2010 to be 653.1 and 707 billion baht, respectively.

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.

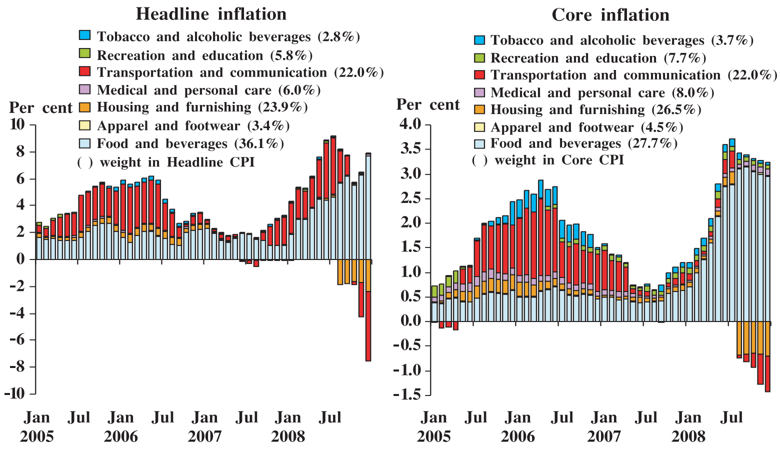
Imports of goods and services were projected to contract substantially in 2009 in line with negative growth in exports and private investment as well as a slowdown in private consumption, which would lead to lower demand for goods and raw materials used in production. However, the MPC assessed that imports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

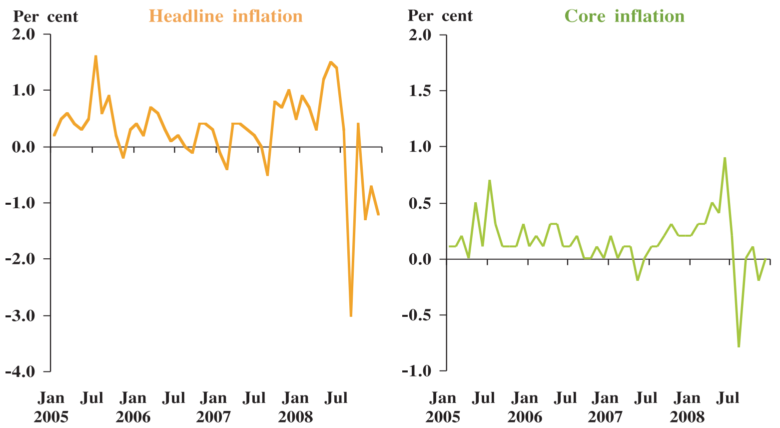
In 2008 Q4, headline and core inflation declined significantly and on the whole were considerably lower than previously projected by the MPC. Measures to ease the costs of living as well as lower pass-through from production costs to final product prices, consequent of lower demand pressure, contributed 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.

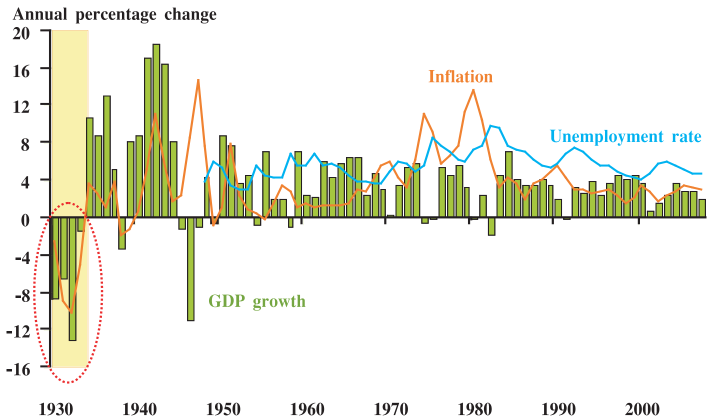
Deflation

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?

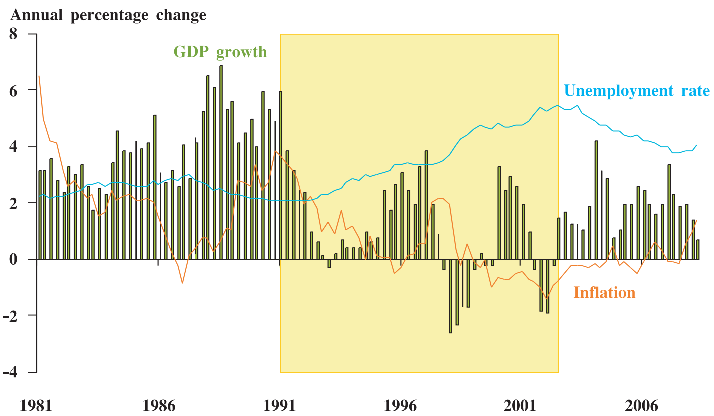
In theory, the decrease in the general price level of goods and services, or negative inflation, could occur from both supply factors, such as productivity expansion, and demand factors, such as severe and prolonged economic recession, possibly caused by excessively tight economic policies. Nevertheless, 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

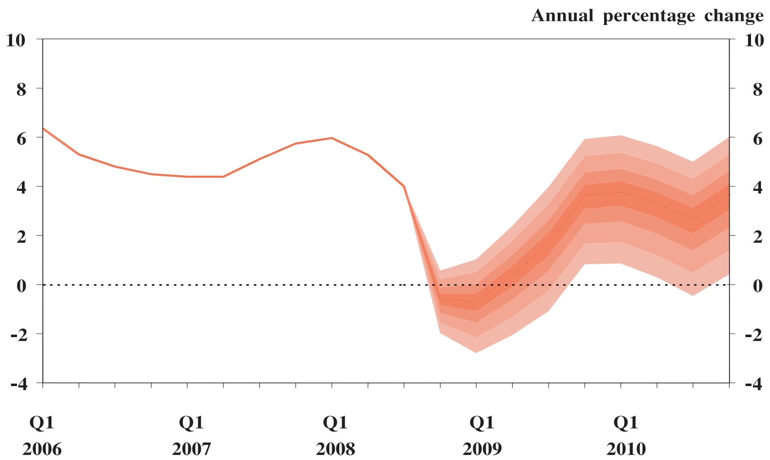
In Thailand, although headline inflation has declined rapidly since September 2008, such decline has been on the back of a sharp fall in oil prices coupled with the government measures to help ease the rising costs of living. Once excluding prices of oil and those affected by the above measures, the 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.

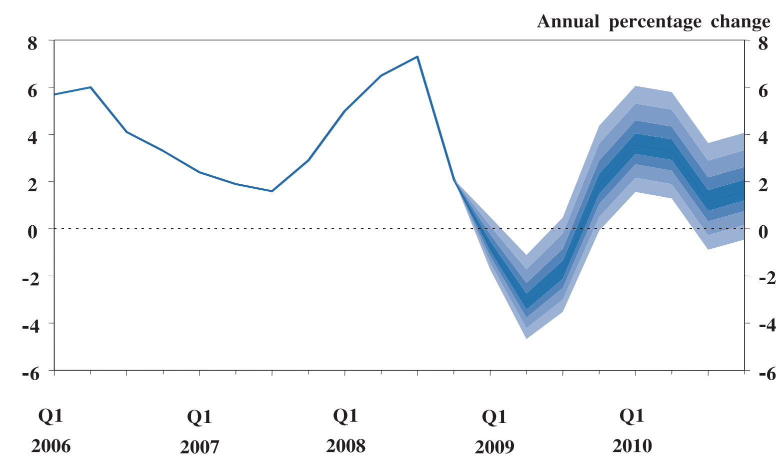
Risk factors in the inflation projection

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

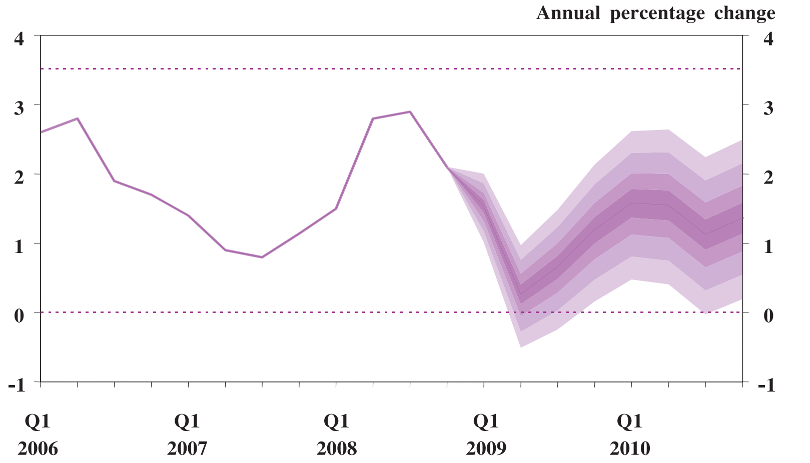
The fan chart for headline inflation is skewed upwards from risks to oil prices while the fan chart for core inflation is skewed downwards in line with the fan chart for economic growth.

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