



BANK OF THAILAND



## Thailand's Economic Conditions in 2012

Vision: To be an organization of vision and principles that engages with stakeholders in pursuit of Thailand's sustainable economic well-being.

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## Year 2012 at a Glance and Outlook for 2013

**The Thai economy expanded well in 2012 from private domestic demand.** Robust consumption was supported by favorable employment conditions, income level and consumer confidence, as well as government stimulus measures. At the same time, private investment also continued to increase on account of flood-damaged repairs, production capacity expansion to support domestic demand, and restructuring of the production process to reduce dependence on labor.

Manufacturing production for domestic consumption expanded robustly in line with strong domestic spending. However, export-oriented production was affected by both domestic and foreign factors. During the first half of the year, limitations arose from flood-damaged production capacity. Later on, although repairs were made such that most major manufacturing production returned to normal, weak global economic conditions led to low foreign demand. As a result, merchandise export value for 2012 decelerated. Nevertheless, the tourism sector thrived following an increase in the number of Asian tourists.

**Overall economic stability was well maintained.** Inflation decelerated from the previous year. Meanwhile, the hike in daily minimum wage to 300 baht in the seven pilot provinces and a 40 percent increase in the remaining 70 provinces did not result in widespread lay-offs. In addition, the pass-through of labor costs to retail prices was not higher than usual. The financial position of the corporate sector and financial institutions grew stronger on the back of robust domestic demand which in turn supported corporate credit growth both from continued demand and financial institutions' ability to lend. At the same time, consumer loans expanded significantly in tandem with consumer spending, partly from the government's first-car tax rebate scheme which resulted in higher-than-normal car purchases, as well as low interest rates which supported borrowings.

External stability remained stable. The current account recorded a surplus despite export limitations, while the financial account exhibited net inflow of capital causing the baht to strengthen. Nevertheless, the baht appreciated only slightly because Thai direct investment abroad and Thai portfolio investment abroad somewhat balanced out with capital inflows of the same type from foreign investors.

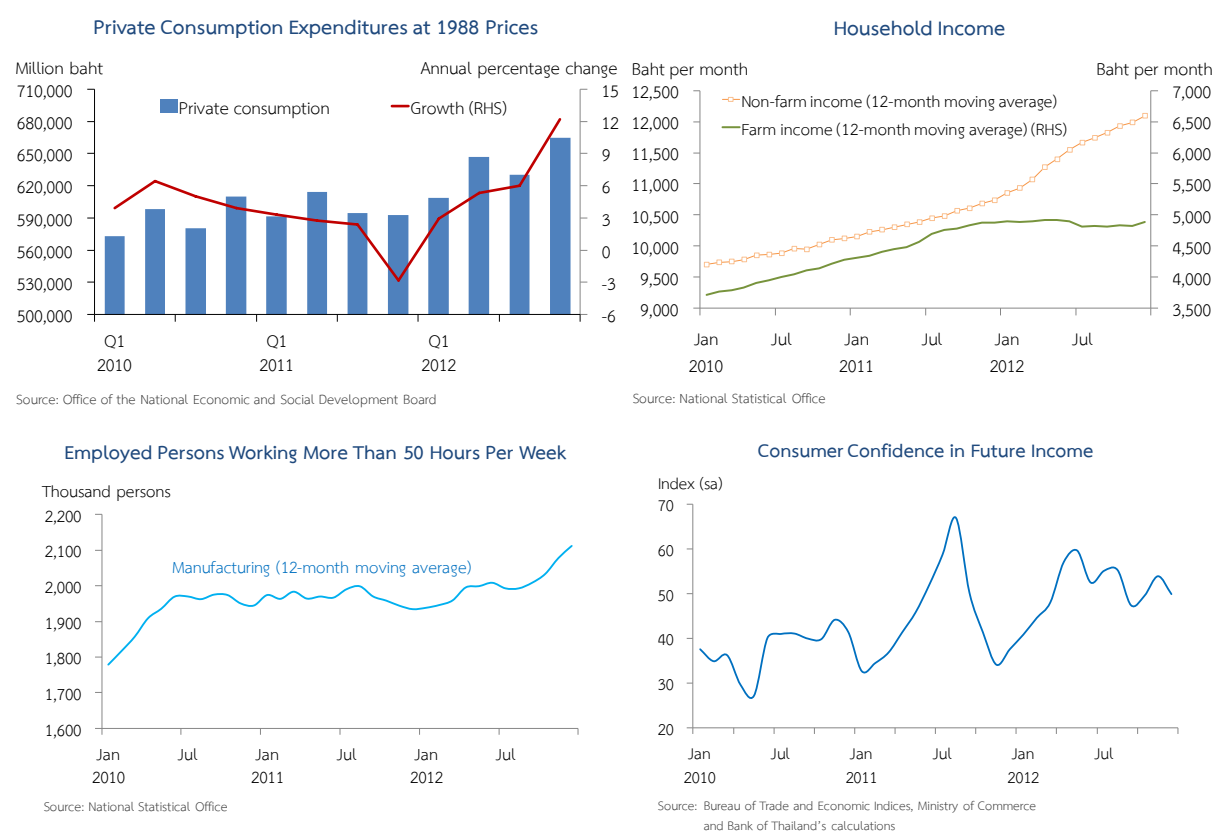
**For 2013, the Thai economy is expected to continue to expand well from 2012** with domestic demand remaining the main engine of growth in the first half of the year. Meanwhile, the export sector is expected to recover slowly in tandem with gradual improvements in the global economy. **Inflation pressure is likely to remain close to the current level.**

Economic and financial risk factors which render close monitoring include volatility of capital flows stemming from industrialized economies' monetary policy stance and global economic uncertainty, as well as persistently high consumer loan growth and impacts from the nation-wide minimum wage hike to 300 baht.

## The Thai Economy in 2012

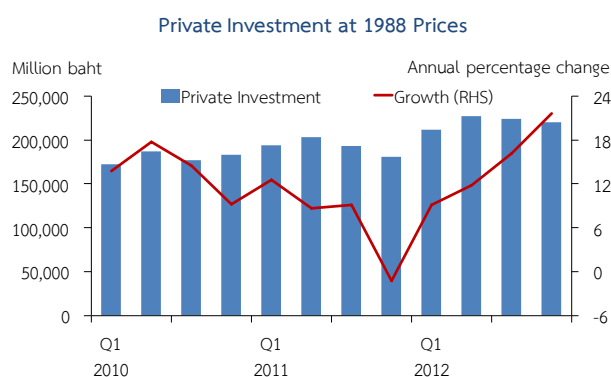
### The Thai economy expanded strongly due to private domestic demand.

In 2012, the Thai economy grew at 6.4 percent owing to robust private domestic demand. Consumption increased in line with higher average earnings, in both farm and non-farm households. This was due to an increase in crop production, in particular rice, rubber and cassava following expansions in planting areas and favorable weather conditions. In addition, the government's rice pledging scheme helped increase farmers' income. Furthermore, on April 1, 2012, the government raised the daily minimum wage in seven pilot provinces to 300 baht and hiked up the minimum wage by 40 percent in the remaining 70 provinces, which consequently led to a wage increase of other workers given the tight labor market condition. This was reflected in the low unemployment level and a rise in the number of overtime hours worked in the manufacturing sector. This increase in income, given low inflation and no unusual surge in inflation despite the minimum wage hike, improved consumers' purchasing power and confidence.

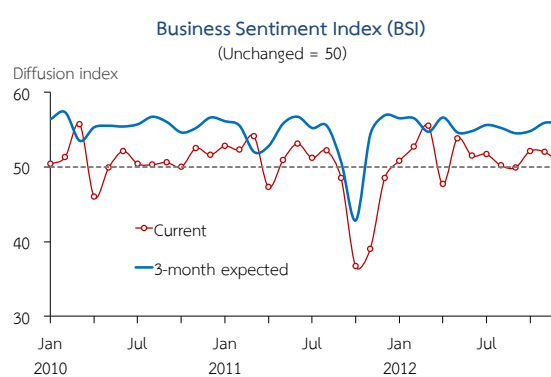


Government measures helped stimulate spending, particularly the tax rebate scheme for first-time car buyers which was expected to involve 680,000 cars in 2012. Meanwhile, there was no indication that the purchase of cars lowered spending on other goods as reflected in an increase in VAT collection both in durable and non-durable goods.

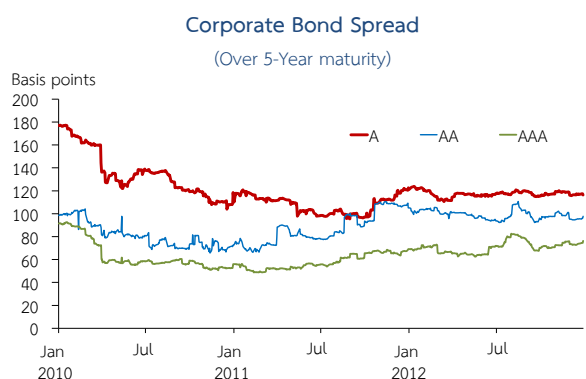
In the meantime, **private investment** also grew robustly in line with high imports of capital goods. During the first half of the year, investments surged following building repairs and imports of machineries to replace those damaged by the flood in many key industries, such as automobile, electrical appliances, hard disk drive and electronics. Moreover, investments for production capacity expansion increased throughout the year to support robust domestic demand and to replace labor with machinery as the labor market remained tight and wages rose, as well as to accommodate an increase in neighboring country demand in anticipation of the launch of the ASEAN Economic Community (AEC) and opening of the market. Factors supporting investments included businesses' confidence in the economic outlook, low cost of borrowing and high corporate loan growth.



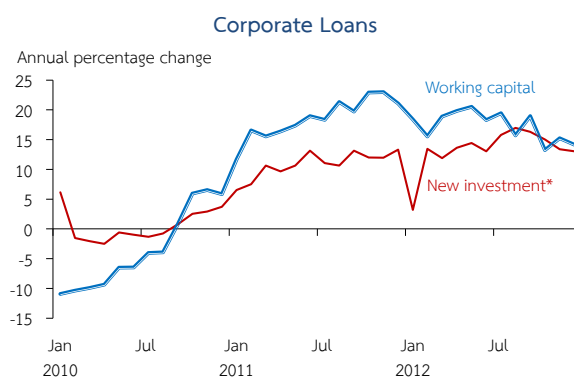
Source: Office of the National Economic and Social Development Board



Source: Bank of Thailand



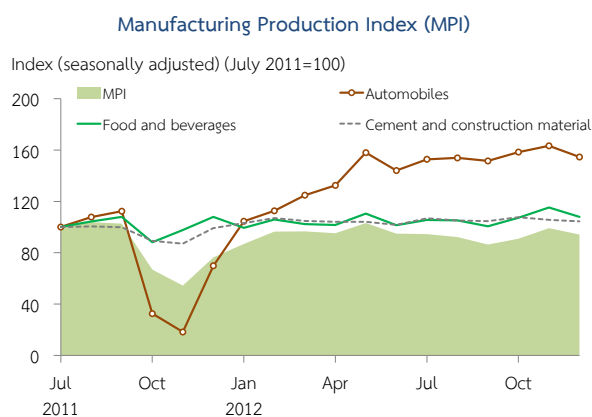
Source: Thai Bond Market Association



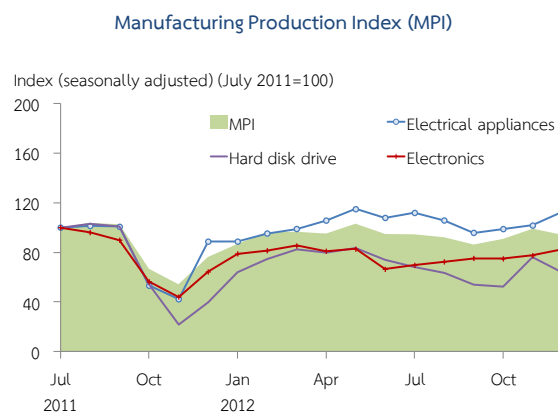
Note: \*New investment includes land, property, as well as machinery purchases.  
Source: Bank of Thailand

**The manufacturing sector recovered quickly from the flood due to expedited reconstruction and production for domestic consumption.**

**Manufacturing production** was severely affected by the flood toward the end of 2011, especially in the automobile, electrical appliance and electronics industries which were key export merchandises. Overall production contracted significantly in 2012 Q1, but was able to recover quickly from expedited reconstruction, with production almost returning to its normal level in the second quarter. For the rest of the year, automobile production accelerated notably, with producers focusing on domestic sales rather than exports to meet high demand thanks to government stimulus measures. Concurrently, other domestic-oriented industries, namely, petroleum products, cement and construction material, food and beverages, also expanded strongly.



Source: Office of Industrial Economics, Bank of Thailand's calculations



Source: Office of Industrial Economics, Bank of Thailand's calculations

### Domestic Automobile Sales

	2011	2012	2012			
			Q1	Q2	Q3	Q4
Domestic automobile sales* (thousand cars)	795.3	1,435.9	279.3	327.2	393.8	435.6
Annual percentage change	-0.6	80.6	17.1	69.2	64.8	250.5

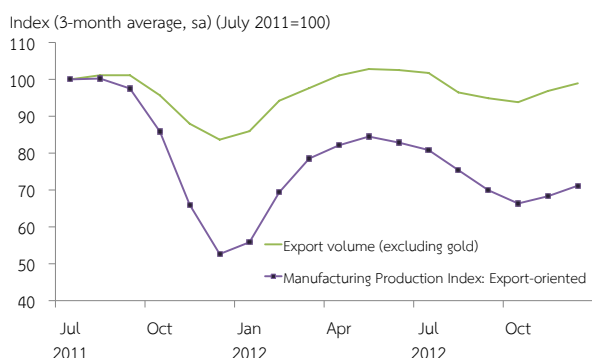
Note: \*Include passenger and commercial cars

Source: The Federation of Thai Industries

### Merchandise exports remained sluggish, while the tourism sector expanded well.

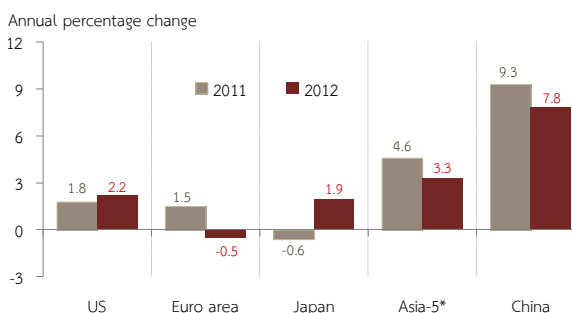
The prolonged and widespread sovereign debt crisis in the euro area which caused uncertainty in the global financial markets, together with continued weakening of the US and Japanese economies, led to a slowdown in foreign demand. The impact on Thai exports became apparent towards the end of the second quarter, with the slowdown observed across most commodities and major export markets. As a result, although production in almost all industries had returned to normal, production of export-oriented industries in the latter half of the year declined from the first half of the year, before recovering slightly towards the end of the year in line with a more stabilized global economy.

### Export Volume and Export-oriented Manufacturing Production



Source: Customs Department and Office of Industrial Economics, Bank of Thailand's calculations

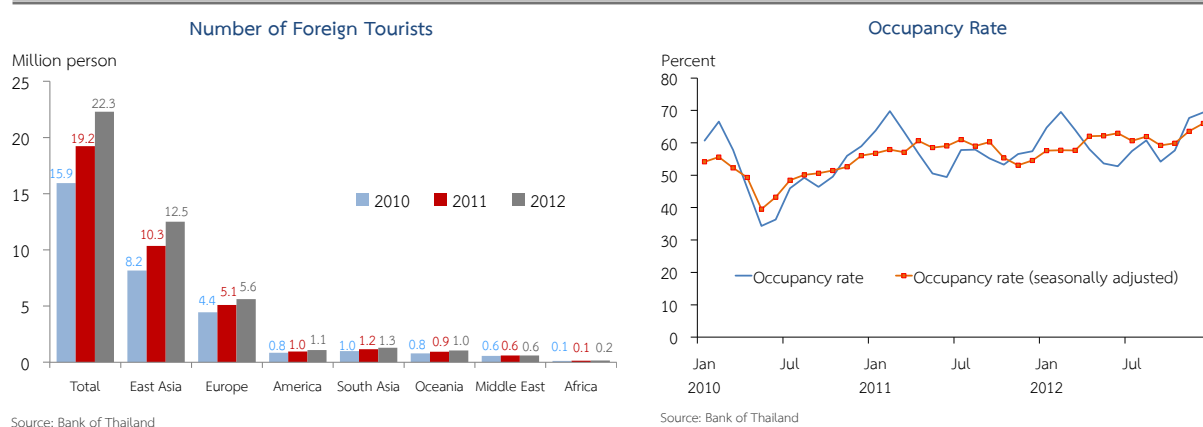
### Global Economic Growth in 2011 and 2012



Note: \* GDP-PPP weighted average of five Asian countries: Indonesia, the Philippines, South Korea, Taiwan and Singapore.

Sources: Bureau of Economic Analysis (U.S. Department of Commerce), Cabinet Office of Japan, CEIC, Eurostat, and Bank of Thailand's calculations

Overall, merchandise export value expanded somewhat in 2012, but export volume contracted slightly from the previous year. Nevertheless, the tourism sector grew significantly, with the number of foreign tourists reaching a new record high of 22.3 million people. The number of foreign tourists increased from all regions, particularly East Asia and ASEAN countries, and even tourists from Europe did not decline despite their economic crisis. This was because Thailand is a popular destination considered worth the value for money. Other supporting factors included an increase in the number of flights and the reopening of Don Muang Airport in October 2012. The increase in the number of foreign tourists coincided with higher hotel occupancy rates across all regions of the country.



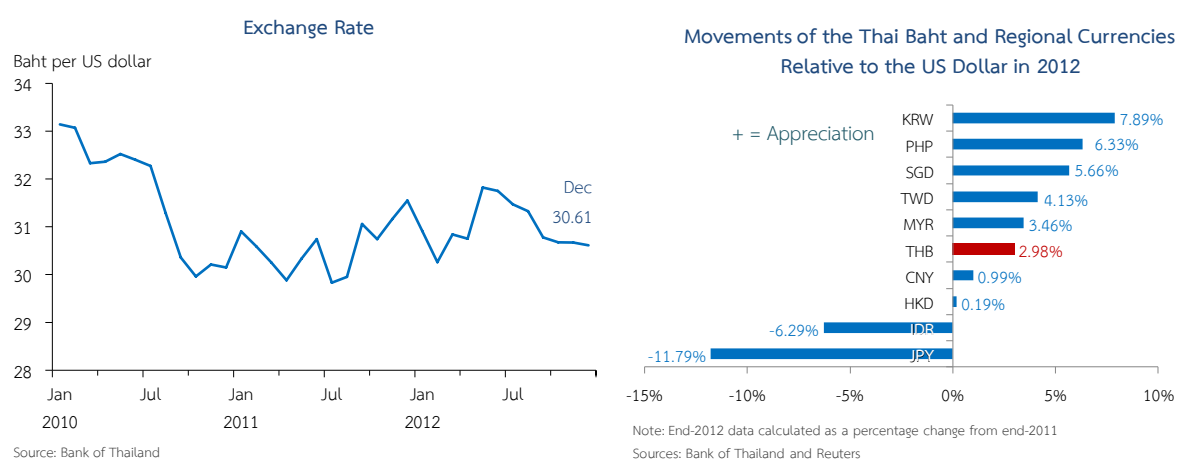
## Macroeconomic policies, both fiscal and monetary, helped support continuous economic growth.

With the Thai economy faced with flood problems and weak global economic conditions, fiscal and monetary policies were crucial in bolstering consumer and business confidence as well as helping to facilitate flood-damaged repairs. Domestic spending was sufficient to compensate for impacts from the global economy on exports. In fiscal year 2012, the government set up a fiscal budget deficit of 400 billion baht or 3.7 percent of GDP as well as implemented many stimulus measures, for example, tax rebate for first-time car buyers, the rice pledging scheme, minimum wages and civil servants' salary hikes, and corporate income tax rate reduction from 30 percent to 23 percent.

At the same time, monetary policy remained supportive of borrowings. The policy rate was reduced twice, totaling 50 basis points to stand at 2.75 percent per annum at end-2012. The lower interest rate partly helped maintain robust private credit growth. Overall, corporate loans grew in tandem with domestic investment. Meanwhile, consumer loans also grew significantly, especially other personal loans and auto leasing. On the deposit side, competition for deposits through special products took place throughout the year to support credit growth.

## The Thai baht appreciated in line with regional currencies.

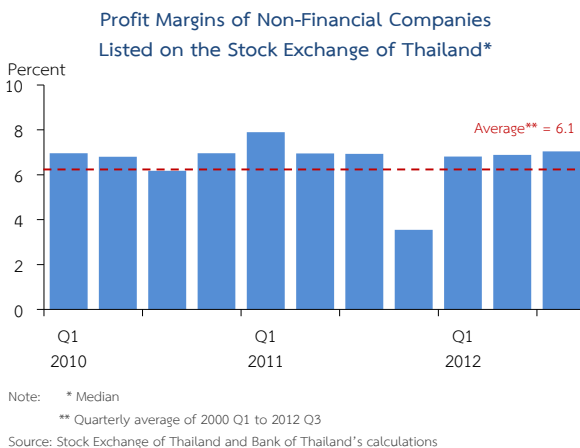
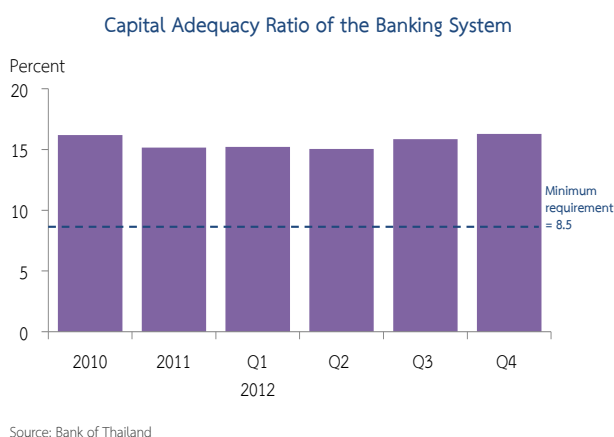
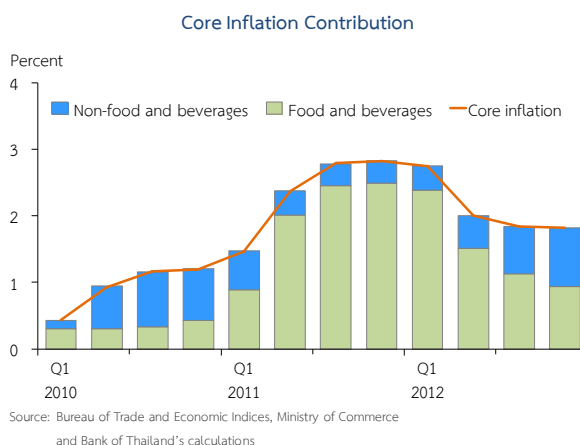
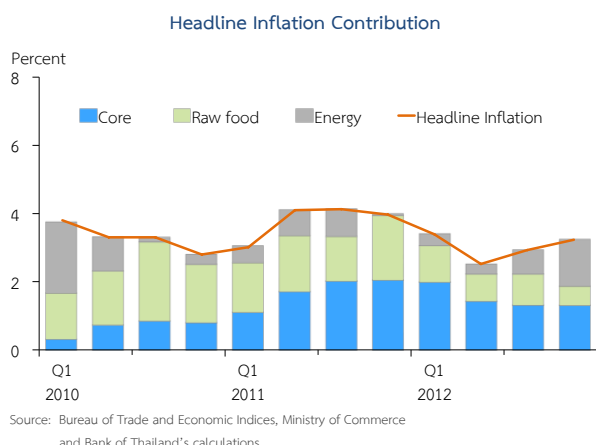
The Thai baht strengthened against the US dollar in 2012. Progress in resolving the sovereign debt problem in the euro area helped improve foreign investors' confidence so they subsequently increased holdings of risky assets which bore higher returns, including Thai baht assets. This together with abundant liquidity in the global financial markets stemming from monetary easing in major industrialized countries resulted in continuous capital flows into the region's bond and stock markets, including Thailand's. Consequently, the Thai baht stood at 30.61 baht per US dollar at end-2012, appreciating 2.98 percent from the beginning of the year. Nevertheless, the Thai baht appreciated less than the currencies of its trading partners and competitors in the region because Thai investors also increased investment abroad, particularly in direct investment and portfolio investment, which helped balance out capital inflows and outflows.



## Overall economic stability remained sound.

In 2012, **headline and core inflation** averaged at 3.02 and 2.09 percent, respectively. Headline inflation decelerated from the previous year following a slowdown in raw food prices, which was partly due to an oversupply of meat and eggs in the domestic market. Core inflation also moderated once the pass-through of costs to retail prices returned to its normal trend after having accelerated during the flood in the last quarter of 2011. Meanwhile, the minimum wage hike on April 1 did not cause core inflation to accelerate more than normal because some entrepreneurs feared that raising prices amidst fierce competition would result in market share loss.





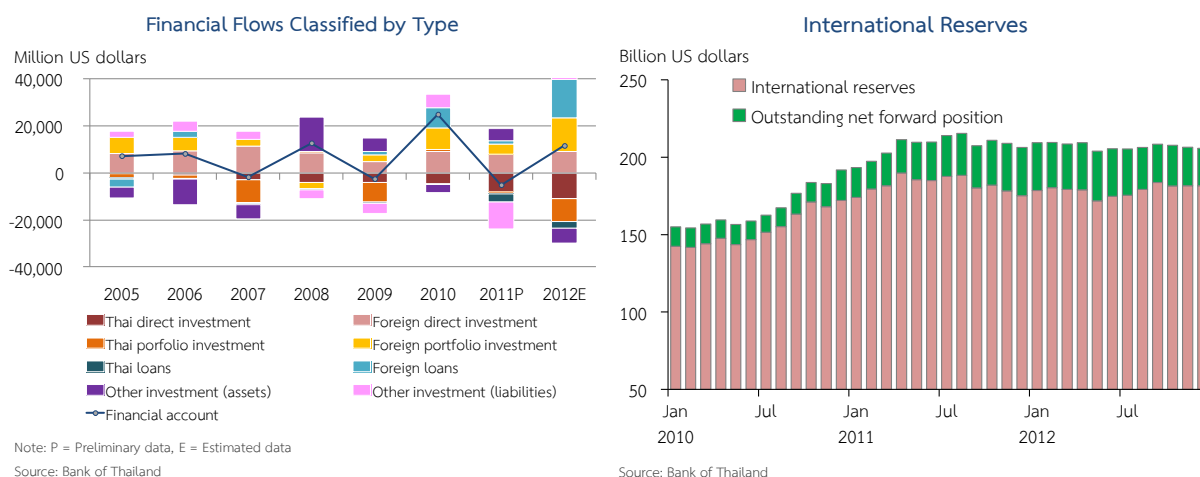
**Financial institutions** remained sound, as reflected by the capital adequacy ratio and strong profitability. This was a result of debtors' healthy financial position, both corporate and households, as reflected by strong profitability and liquidity conditions of companies listed on the Stock Exchange of Thailand, while households' financial position benefited from favorable employment conditions and income.

**Fiscal stability** also remained satisfactory. However, looking ahead, public debt could rise from short-term government stimulus spending. In particular, expenditures on quasi-fiscal policies via specialized financial institutions, as well as public utility and energy price subsidies, could put pressure on fiscal sustainability in the long-term.

**External stability** remained sound. The balance of payments recorded a surplus of 5,265 million US dollars, thanks to the surplus in both current and capital accounts. The latter surplus stemmed from capital inflows due to (1) foreign investment in government bonds, (2) foreign borrowings of financial institutions, especially short-term loans to manage transactions in the foreign exchange swap market, and (3) foreign direct investment, mainly from Japan and the euro area. Concurrently, capital outflows increased from the previous year, albeit to a lesser extent than capital inflows. These outflows mostly originated from

Thai direct investment abroad which was boosted by capital account liberalization measures and the integration of the AEC.

Combining the balance of payment surplus with valuation change, **international reserves** stood at 181.6 billion US dollars as of end-December 2012, or an increase of 6.5 billion US dollars compared to end-2011. Adding Bank of Thailand's outstanding net forward position of 24.1 billion US dollars would result in **net international reserves** totaling 205.8 billion US dollars. Meanwhile, the ratios of international reserves to imports and international reserves to short-term debt remained solid.



External Stability Indicators

	International benchmark	2011	2012	2012			
				Q1	Q2	Q3	Q4
Indicators of liquidity							
- Gross reserves to short-term external debt	> 1	3.7	3.0	3.1	3.0	3.2	3.0
- Gross reserves to import value (months)	> 3-4 months	10.4	10.0	10.4	9.9	10.5	10.0
- Short-term debt to external debt (percent)	n.a.	45.2	45.5	49.2	49.2	45.3	45.5

Going forward, risks that could lead to imbalances in the economy and render close monitoring include the following. (1) Volatile capital flows arising from high liquidity in the global financial markets and uncertainty in the world economy could cause sudden changes in foreign investor confidence. (2) Persistently high consumer loan growth, especially auto leasing and other personal loans, could adversely impact households' debt servicing ability and in turn affect financial institutions' loan quality. And (3) impacts from the nation-wide minimum wage hike to 300 baht on January 1, 2013, could be more substantial than the first round due to a much larger net increase in minimum wage in the outer provinces (excluding the seven pilot provinces) which involve more small businesses who on average have thinner profit margins and are less capable of accommodating higher labor costs than large businesses.

**For 2013, the Thai economy is expected to expand continuously with moderate inflation concern.**

The Thai economy is expected to expand well in 2013, with domestic demand remaining the main engine of growth. In particular, private investment is expected to accommodate growth in domestic spending and market expansion to neighbor countries, as well as restructuring of the production process to reduce dependence on labor. Meanwhile, strong private consumption growth should persist following continual effects from the first-car tax rebate scheme and the personal income tax cut. Moreover, public spending will continue to provide economic stimulus. The export sector is expected to recover gradually before taking on a greater role in driving the Thai economy in the latter half of 2013, which would help maintain momentum of the Thai economy after some government measures have ended.

**Inflation pressure is likely to remain close to the current level.** Headline inflation and core inflation in 2013 are expected to moderate somewhat from the previous year to stand at 2.8 and 1.7 percent, respectively. Although demand pressure could rise slightly from strong domestic spending, cost pressure is expected to soften on the back of stable oil and commodity prices in the global market, in line with the steady 1-year ahead inflation expectation.

### Summary Forecast for 2013

Annual percentage change	2012*	2013
GDP Growth	6.4	4.9
Headline Inflation	3.0	2.8
Core Inflation	2.1	1.7

Note: \* Actual outturn

Source: January 2013 Monetary Policy Report

	2010	2011			2012		
		H1	H2	Year	H1	H2	Year
<i>(Annual percentage change, unless specified otherwise)</i>							
Gross Domestic Product <sup>1/</sup>	7.8	3.0	-2.8	0.1	2.3	10.7	6.4
Demand (expenditure)							
Private consumption expenditure	4.8	3.0	-0.3	1.3	4.1	9.1	6.6
General government consumption expenditure	6.4	1.4	0.9	1.1	3.6	10.9	7.4
Gross fixed capital formation	9.4	6.6	0.0	3.3	7.7	19.2	13.3
- Private	13.8	10.5	3.8	7.2	10.5	18.9	14.6
- Public	-2.2	-5.9	-11.4	-8.7	-2.7	20.4	8.9
Exports of goods and services	14.7	14.0	5.2	9.5	-1.1	7.1	2.9
Imports of goods and services	21.5	15.9	11.7	13.7	6.5	5.8	6.2
Supply (production)							
Agriculture	-2.3	7.1	1.2	4.1	2.7	3.6	3.1
Manufacturing	13.9	0.8	-9.5	-4.3	-0.8	15.9	7.0
Construction	6.8	-4.6	-5.6	-5.1	3.9	11.7	7.8
Services and others	5.0	4.4	2.1	3.3	4.8	8.2	6.5
Domestic stability							
Headline Consumer Price Index	3.3	3.56	4.05	3.81	2.95	3.08	3.02
Core Consumer Price Index (excluding raw food and energy)	1.0	1.91	2.80	2.36	2.37	1.83	2.09
Unemployment rate (percent)	1.0	0.7	0.6	0.7	0.8	0.5	0.7
Public debt (end of period, billion baht)	4,280	4,263	4,298	4,298	4,810	4,961	4,961
Share of GDP (end of period, percent)	42.5	41.1	40.8	40.8	43.7	44.0	44.0
External stability (billion US dollars)							
Trade balance	29.8	12.2	4.8	17.0	2.6	5.8	8.3
Current account balance	10.0	4.5	1.4	5.9	-0.9	3.7	2.7
Capital account balance	0.2	-0.1	0.0	0.0	0.1	0.1 <sup>E</sup>	0.2 <sup>E</sup>
Financial account balance	24.8	1.7	-6.9	-5.2	3.0	8.4 <sup>E</sup>	11.5 <sup>E</sup>
Balance of payments	31.3	7.3	-6.1	1.2	-0.6	5.8 <sup>E</sup>	5.3 <sup>E</sup>
Gross international reserves (end of period)	172.1	184.9	175.1	175.1	174.7	181.6	181.6
External debt (end of period)	100.6	109.3	104.6	104.6	120.1	133.8	133.8
International reserves to short-term debt (percent)	3.4	3.3	3.7	3.7	3.0	3.0	3.0
External debt to GDP (percent)	35.2	36.8	33.8	33.8	36.6	39.0	39.0
External debt to export value (percent)	49.0	51.2	47.0	47.0	50.0	52.7	52.7
Short-term debt to external debt (percent)	50.4	51.5	45.2	45.2	49.2	44.9	44.9
Monetary statistics (end of period) (billion baht)							
Monetary base	1,243.3	1,223.4	1,365.5	1,365.5	1,330.3	1,497.8	1,497.8
Annual percentage change	12.7	14.1	9.8	9.8	8.7	9.7	9.7
Narrow money	1,302.4	1,336.6	1,414.3	1,414.3	1,452.8	1,598.3	1,598.3
Annual percentage change	10.9	13.3	8.6	8.6	8.7	13.0	13.0
Broad money	11,778.8	12,603.9	13,559.9	13,559.9	14,013.0	14,960.2	14,960.2
Annual percentage change	10.9	16.2	15.1	15.1	11.2	10.3	10.3
Financial institution's deposits including bills of exchange <sup>2/</sup>	11,564.3	12,362.1	13,195.4	13,195.4	13,783.7	14,649.7	14,649.7
Annual percentage change	10.8	15.1	14.1	14.1	11.5	11.0	11.0
Financial institution's private credit <sup>2/</sup>	9,947.0	10,679.1	11,587.3	11,587.3	12,396.4	13,358.8	13,358.8
Annual percentage change	12.6	16.1	16.5	16.5	16.1	15.3	15.3
Interest rates (end of period) (percent per annum)							
- Repurchase rate, one-day	2.00	3.00	3.25	3.25	3.00	2.75	2.75
- Overnight interbank rates (mode)	1.87	2.90	3.15	3.15	2.90	2.65	2.65
- Time deposit rate, one year <sup>3/</sup>	1.55	2.35	2.87	2.87	2.86	2.46	2.46
- Prime rate (MLR) <sup>3/</sup>	6.12	6.87	7.25	7.25	7.13	7.00	7.00
exchange rate (end of period) (baht per U.S. dollar)	30.15	30.74	31.55	31.55	31.75	30.61	30.61

Notes: <sup>1/</sup> At constant prices<sup>2/</sup> Financial institutions consist of all deposit-taking institutions except the Bank of Thailand<sup>3/</sup> Average rate of four largest commercial banks

E = Estimated data

Sources: Office of the National Economic and Social Development Board, Ministry of Commerce, National Statistical Office,

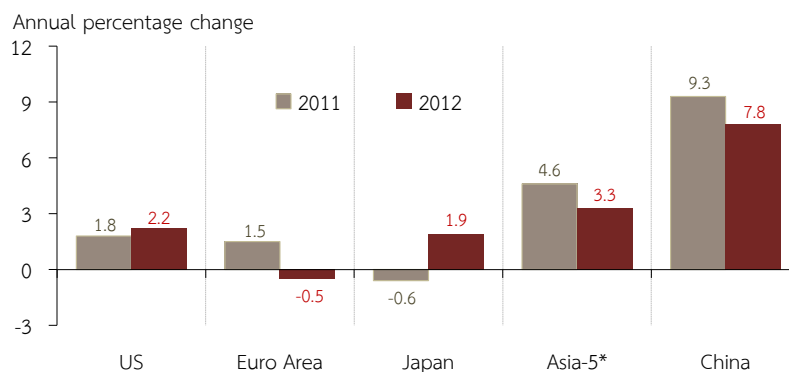
Public Debt Management Office, and Bank of Thailand



## 1. Global Economies

Global economic growth in 2012 decelerated from the previous year due to the euro area's sovereign debt problem which intensified during the first half of the year. This led to volatile global financial markets and weighed on major industrialized countries' real economy and developing economies via exports. Nevertheless, the global economy became more stable towards the end of the year.

Global Economic Growth in 2011 and 2012



Note: \* GDP-PPP weighted average of five Asian countries: Indonesia, the Philippines, South Korea, Taiwan and Singapore.

Sources: Bureau of Economic Analysis (U.S. Department of Commerce), Cabinet Office of Japan, CEIC, Eurostat, and Bank of Thailand's calculations

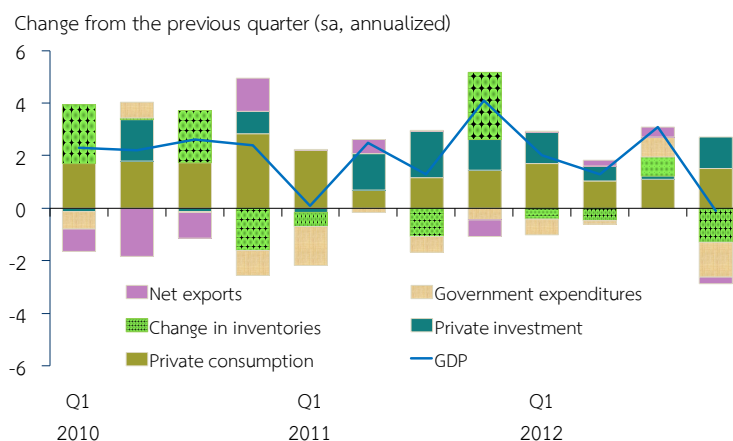
### Major Industrialized Economies (G3)

#### The U.S. economy recovered modestly amidst uncertainties from both domestic and external factors.

The U.S. economy grew by 2.2 percent in 2012, accelerating slightly from last year. The U.S. economy grew robustly in early 2012, driven by domestic demand and recovery in the housing market. Nonetheless, the U.S. economy slowed down in the second quarter due to concerns over (1) intensified sovereign debt problems in the euro area, (2) the termination of some fiscal stimulus measures at end-2012 and (3) the global economic slowdown which undermined private confidence and led to further delays in investment, employment and consumption.

However, the overall U.S. economy picked up in the latter half of the year thanks to (1) improved private confidence once the resolution of Greece's sovereign debt problem became more concrete, (2) clearer signs of recovery in the housing market as reflected by persistent increases in housing prices which helped improve households' financial position, and (3) further economic stimulus measures from major industrialized economies' central banks together with additional monetary easing by the Federal Open Market Committee (FOMC)<sup>1</sup> which helped keep short- and long-term interest rates low, facilitating recovery in the fragile labor market and supporting the housing sector which had excess supply problems.

Contribution to U.S. GDP Growth



Source: U.S. Department of Commerce

<sup>1</sup> In the September and December 2012 meetings, the FOMC announced that it would (1) buy assets with no end date by purchasing agency mortgage-backed securities at a pace of 40 billion US dollars per month and long-term Treasury securities of 45 billion US dollars per month, (2) keep the federal funds rate at 0-0.25 percent per annum, given that the unemployment rate remained above 6.5 percent and that inflation projection between 1-2 years ahead was no more than half a percentage point above the inflation target of 2 percent.

Although the U.S. economy was able to avoid entering into recession in early 2013 from the fiscal cliff problem<sup>2</sup> owing to extensions of some economic stimulus measures, growth was expected to be sub-potential going forward. This was due to unclear solutions to trim down the budget deficit, with regard to both budget sequestration and debt ceiling increase.

**The euro area<sup>3</sup> entered into a recession on the back of sovereign debt problems' impact on core economies.**

Euro area economies contracted by 0.5 percent from the previous year. In 2012 Q1, concerns over sovereign debt problems in the euro area subsided thanks to the 3-year long-term refinancing operations (LTROs). Later on however, financial markets became volatile once again and cost of borrowing was significantly raised due to (1) political instability in Greece which could affect its membership status in the future in the euro area and the future of the euro area itself, and (2) Spain's request for financial assistance to recapitalize banks reflecting that the sovereign debt problem in Spain had intensified. As a result, the euro area entered into recession.

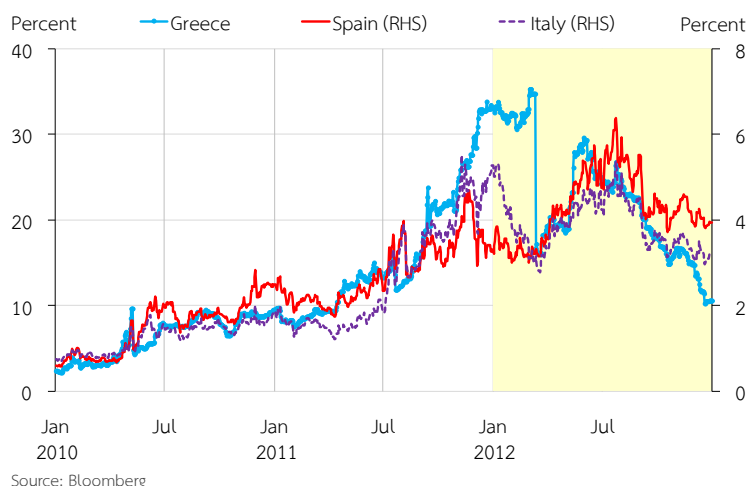
Many measures to handle the sovereign debt problem were implemented, for example (1) the establishment of the European Stability Mechanism (ESM), (2) the establishment of the Banking Union which allowed the European Central Bank (ECB) to act as a Single Supervisory Mechanism (SSM), and (3) Outright Monetary Transactions (OMTs) by the ECB. These together with additional assistance and the euro area's approval of the financial aid disbursement to Greece helped improve confidence in financial markets and the private sector. This was reflected by the significant drop in the spread of PIIGS countries' and Germany's government bond yields.

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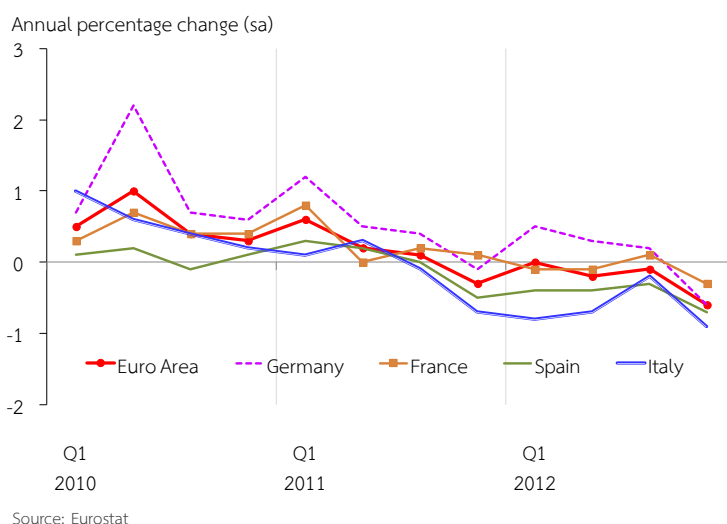
<sup>2</sup> The fiscal cliff refers to a sharp decline in fiscal stimulation due to the ending of tax cuts with tax rates returning back to their higher rates, and a reduction in public spending. The fiscal cliff was to take effect in early 2013 if the law was not revised. However, on January 2, 2013, the Congress passed a legislation to partly avert impacts from the fiscal cliff.

<sup>3</sup> The euro area consists of Austria, Finland, Belgium, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Greece, Slovenia, Cyprus, Malta, Slovakia, and Estonia .

10-Year Government Bond Yield Spread of Greece, Spain and Italy relative to Germany



Euro Area's GDP growth



Although there were developments in the European Union's<sup>4</sup> resolution of the sovereign debt problem in 2012, looking ahead, their economies would remain sluggish and recover slowly due to risks from (1) PIIGS failing to cut their budget deficit to agreed targets which would prolong the sovereign debt crisis and cause unresolved structural problems as reflected by record-high unemployment rates, (2) higher-than-expected impacts from fiscal austerity measures employed by most euro area nations, and (3) delays to euro area cooperation due to many obstacles in implementation.

<sup>4</sup> The European Union consists of euro area nations, the United Kingdom, Denmark, Finland, Sweden, Hungary, Latvia, Lithuania, Bulgaria, Romania, and Poland.

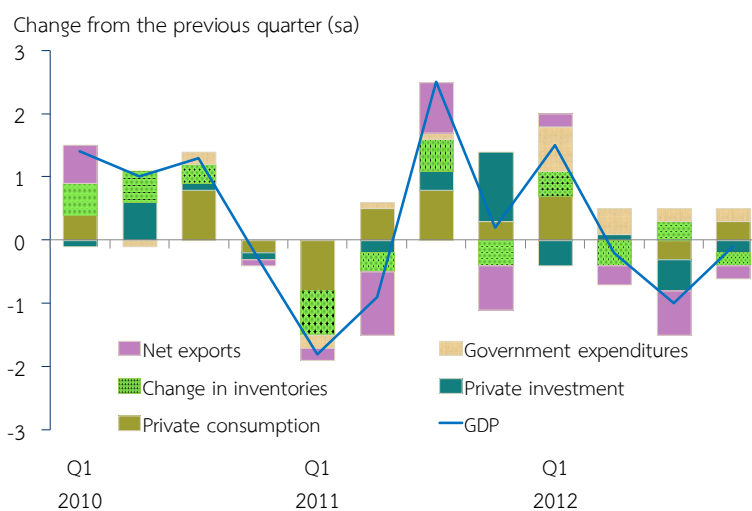


The Japanese economy expanded robustly during the first half of the year thanks to government stimulus measures, but entered into a recession in the latter half of the year on the back of subdued exports and domestic demand.

The Japanese economy expanded by 1.9<sup>5</sup> percent in 2012, compared to a slight contraction experienced last year. In the first half of the year, Japan's economy recovered from public investments to restore damaged areas from the tsunami and earthquakes in 2011 and increased private consumption on account of the government's eco-car subsidy program.

Nevertheless, the latter half of the year saw Japan's economy soften on the back of contracting exports due to (1) weakening foreign demand, (2) persistent strengthening of the yen due to it being a safe-haven currency and (3) territorial disputes over the Diaoyu or Senkaku Island with China, one of Japan's major trading partners<sup>6</sup>, which intensified in late September and led to a large contraction in exports to China. The slowdown in exports, in turn, led to a deceleration in private investment. Private consumption also softened after the government's eco-car subsidy program ended in September.

Contribution to Japan's GDP Growth



Source: Cabinet Office of Japan

<sup>5</sup> Preliminary data.

<sup>6</sup> Japan's exports to China accounted for 18.1 percent of total Japanese exports.

Given weakening economic conditions, the Bank of Japan made efforts to ease monetary policy further by expanding its asset purchase program 5 times totaling 46 trillion yen (or around 9.8 percent of GDP) and officially announced the short-term inflation target (excluding raw food prices) at 1 percent in order to pull the Japanese economy out of deflation.

Japan's economy was expected to recover going forward, supported by (1) increased public spending by the new government to stimulate the economy, (2) recovery in the export sector in tandem with gradual improvements in the global economy, and (3) weakening of the yen after further easing of monetary and fiscal measures. Since the dissolution of parliament on November 16, 2012 to end-2012, the yen depreciated by more than 7 percent following the expectation that the new government would implement accommodative monetary and fiscal measures to resolve Japan's persistent deflation problem.

**Chinese and Asian economies moderated from the previous year owing to sluggish exports from weak global economic conditions.**

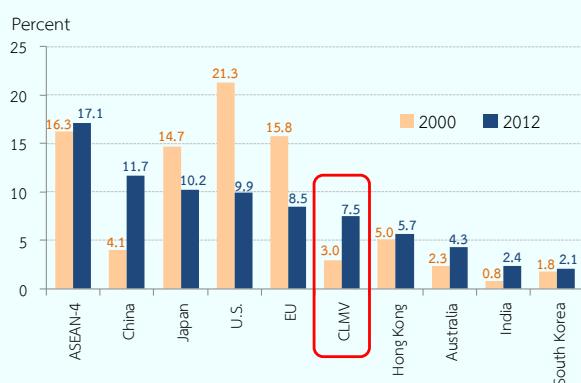
In 2012, the economies of China and Asia slowed down from last year. In the first half of the year, exports to major trading partners continued to contract due to impacts from the widespread sovereign debt problem in the euro area. The contraction in exports adversely affected the real sector and domestic consumption in some countries, particularly those that were highly dependent on exports, such as Hong Kong, South Korea and Taiwan. Nevertheless, in some countries, for example, China, Indonesia and Malaysia, economic growth continued to be high following strong domestic demand, both in consumption and investment, together with increased inter-regional trade. Meanwhile, in the latter half of the year, regional economies became more stable owing to recovery and gradual improvements in the real sector and exports in tandem with global economic recovery.

## The Role and Connections in Trade and Investment Between Thailand and the CLMV countries

During the last ten years, the CLMV countries which comprise Cambodia, Laos, Myanmar and Vietnam have continuously grown in importance to the Thai economy as a high potential export and investment destination. This was reflected in the rising trend of Thailand's exports<sup>1</sup> to the CLMV countries and the proportion of outstanding value of Thailand's direct investment in the CLMV countries to total direct investment abroad which ranks second only to ASEAN-4<sup>2</sup>. These trends are expected to continue in the next periods.

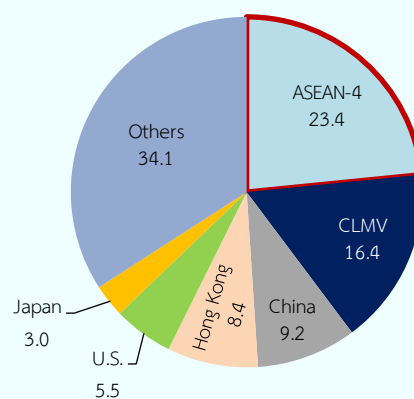
### Proportion of Thailand's Exports and Investments by Destination

Proportion of Thailand's Exports to Trading Partners



Sources : Customs Department and the Bank of Thailand

Proportion of Thailand's Direct Investment abroad\* (Percent)



Note : \* Data as of 2011

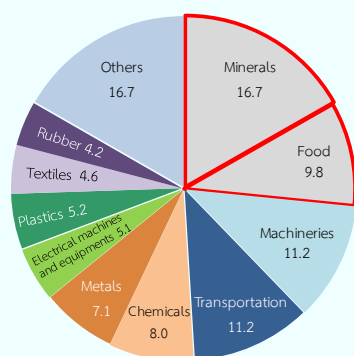
The increasing role in international trade of the CLMV countries was partly the fruit of their continued trade liberalization, especially through the gradual decrease of customs duties under the ASEAN Free Trade Agreement that led to a significant increase in border and cross-border trade activities. Moreover, Thailand's exports to the CLMV countries were less volatile compared to other destinations given that most were necessity goods such as fuel and consumer products that are less sensitive to changes in income. Therefore, while Thailand's exports to major markets including the U.S. and Europe shrank during the global economic crisis, those to the CLMV countries continued to expand well and helped support economic growth and trading activities in Thailand's border provinces.

<sup>1</sup> 85 percent of Thailand's trade with the CLMV countries is border trade.

<sup>2</sup> ASEAN-4 consists of Indonesia, Malaysia, the Philippines and Singapore.

## Composition of Exports by Products and Contribution of Export Growth by Destination

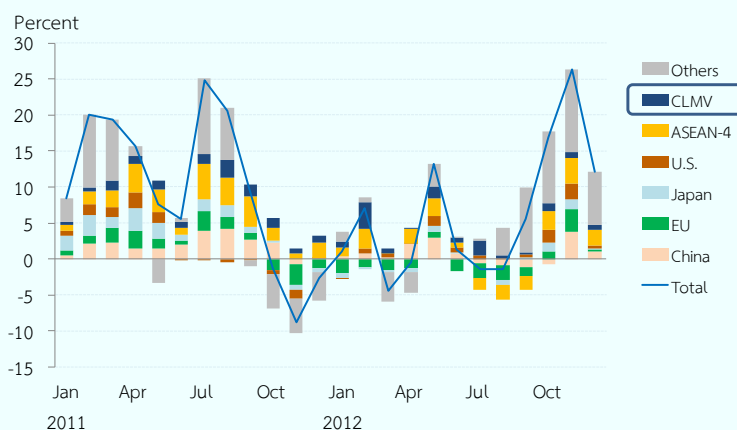
Composition of Thailand's Exports to CLMV Countries by Products\* (Percent)



Note: \* Averaged during 2008 - 2012

Sources : CEIC, Trademap

Composition of Thailand's Export Growth by Destination



The CLMV countries also grew significantly in attractiveness as an investment destination, whereby the outstanding value of Thailand's direct investment in these countries to total direct investment abroad increased from 7.7 percent in 2006 to 16.4 percent in 2011. Such development was partly due to the countries' richness and abundance of natural resources as well as cheap labor costs which motivated foreign and Thai businesses, particularly those in labor-intensive sectors, to relocate their production base there. Moreover, the countries' governments introduced investment promotion measures to attract foreign investment forcefully and continuously, for example, the unwinding of investment restrictions and the implementation of a double tax agreement.

Looking ahead, it is expected that the CLMV economies would continue to grow in importance to Thailand from the following supporting factors. (1) The CLMV countries have high consumption growth potential as reflected by the average GDP growth of 8.1 percent during the past ten years, which raised per capita GDP by more than double. (2) Thailand has geographical advantage as we share a long distance of border with the CLMV countries with land transportations that are well connected and supportive of cross-border goods distributions. (3) Continued trade liberalization, especially in 2015 when import duties among ASEAN nations would be reduced to zero. (4) The countries' measure to open up foreign direct investment to various sectors, except some important sectors such as the banking sector and the national security sector, whereby foreign investors are allowed full ownership of the businesses.

However, challenges pertaining to transactions with the CLMV countries remained. With greater openness to global trade, interest from other countries in these countries would also grow and result in higher competition. Moreover, there remains some political uncertainties within the countries from ongoing demonstrations as well as religious and racial conflicts, especially among minority groups. Last but not least, infrastructures for telecommunications and utilities still need a lot of time and capital to develop and the countries must strive to achieve a balance between growing public debt and spending on these infrastructures so that basic foundations of the economy could be strengthened in a timely manner.



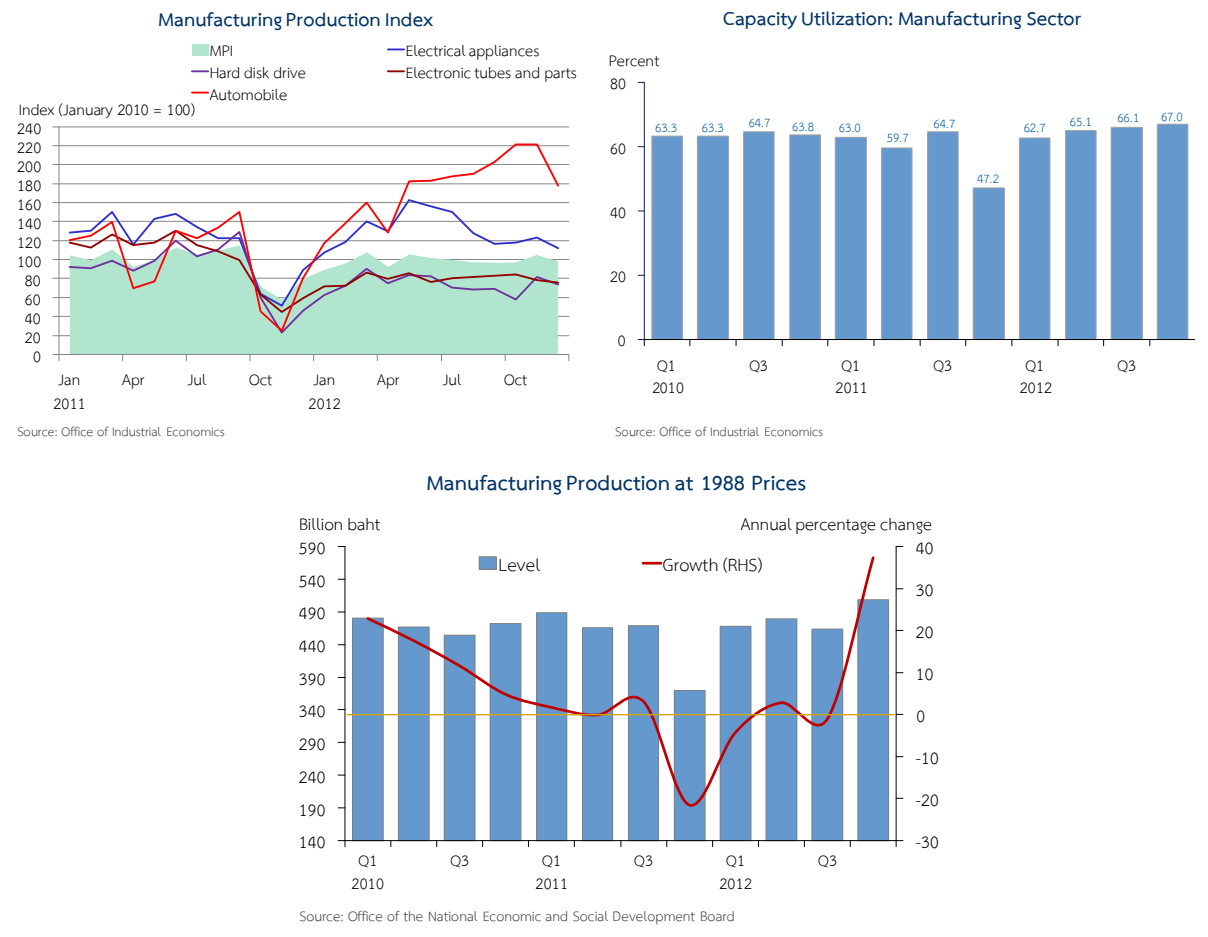
## 2. Supply Side

### 2.1 Manufacturing Sector

In 2012, manufacturing production was able to recover from impacts of the flood, taking a relatively short time to resume its normal level. Impact from the global economic downturn was limited to export-oriented industries while those for domestic market continued to expand well.

Manufacturing production grew from the previous year. During the second quarter, overall production recovered, returning close to the pre-flood level, especially for industries which had been severely affected namely automobile, electrical appliances, hard disk drive, and electronic tubes and parts. This recovery was due to intensive reconstruction and restoration, imports of machineries to replace those that had been damaged by the flood, and easing supply chain disruption problem. For the latter half of the year, production of automobiles accelerated, owing mainly to domestic sales which benefited from pent-up demand and the government's tax rebate scheme for first-time car buyers. Other domestic-oriented industries also expanded well, including petroleum products, construction materials, as well as food and beverages, to accommodate robust domestic spending. However,

export-oriented industries, especially hard disk drive, were affected markedly by the global economic downturn since the end of Q2 before improving marginally at the end of the year. Overall, manufacturing production in 2012 increased by 2.5 percent, and the capacity utilization rate rose from 58.7 percent in the previous year to 65.2 percent.



Key industries which were affected by the flood but managed to restore production capacity close to the norm by Q2 included:

- *Automobile* made the fastest recovery among the flood-affected industries due to temporary imports of parts and rapid reconstruction of factories. All of the automakers were able to step up production to return to their normal level since the end of Q1 and increased production further to keep up with large amount of orders owing to backlog order and impact of government's tax rebate scheme for first-time car buyers. As a result, automobile production reached a historical high at 2.4 million cars in 2012, rising by 66.8 percent from the previous year.

- *Hard disk drive* production declined from last year. Although its production capacity was restored close to its normal level since the end of Q2, growth contracted in Q3, owing to the slowdown in the global economy. Nevertheless, production began to show signs of mild recovery in Q4 in line with improved external demand. As a result of the flood, some orders were sent to other production bases overseas, such as Malaysia and China, to diversify risks, but some manufacturers continued to expand production capacity in Thailand.

- *Electrical appliance* manufacturers had been mostly affected indirectly by the flood through disruptions in supply chains as some input factories were located in the flooded area. Manufacturers, however, were able to order inputs from other sources while factory reconstruction was taking place. Production of electrical appliances fully recovered in Q2 and stepped up pace to meet the pent-up demand, especially from the domestic side. Thus overall production of electrical appliances increased from the previous year.

- *Electronic tubes and parts* output declined from last year since most factories were located in the flooded area. Reconstruction also took time because machineries and equipment needed high precision and cleanliness in the repair and installment processes. Meanwhile, manufacturers which were not damaged by the flood were affected by the global economic downturn in Q3.

Domestic-oriented industries continued to expand satisfactorily, consistent with favorable domestic spending:

- *Food and beverages* production expanded in line with beer and non-alcoholic beverages in anticipation of the UEFA Euro 2012 and the Olympics Games in Q2 and Q3, respectively.

- *Petroleum* growth was due to buoyant demand following rising automobile sales. It also reflected the low base effect from the previous year due to gradual closing of some refineries for upgrading to comply with the EURO IV standard. However, petroleum production in Q3 declined, compared with the same period last year, owing mainly to the reconstruction of a Bangchak refinery which had been damaged by a fire. The refinery resumed its operation in Q4.

- *Construction materials* grew satisfactorily on account of expansion in the real estate sector and government infrastructure projects, such as the purple line of the BTS skytrain, flood-damaged repairs, and investment in dam projects for flood prevention by both government and private sectors.

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Expansion of the above industries led to production growth of related industries, including steel, chemical products, rubber products, and paper.

However, production in certain industry continued to decline from last year, namely

- *Textiles and garments*: with higher production costs and weakening competitiveness, many manufacturers moved their production base to neighboring countries. They also faced lower external demand following the global economic slowdown.

In 2013, manufacturing production is expected to continue to perform well, especially domestic-oriented industries, in tandem with strong purchasing power and supportive monetary conditions. Production for exports is expected to pick up pace in line with external demand, which is showing signs of improvement.



## 2.2 Agricultural Sector

### Farm income<sup>1</sup> in 2012 declined from falling prices although output increased.

Agricultural prices declined by 9.6 percent from the previous year despite higher rice market price resulting from the rice pledging scheme. The increase in rice price could not offset the impact on overall agricultural prices, owing to a number of factors. (1) Weaker external demand, especially from China with subdued demand for rubber and cassava in line with its slower economic growth. (2) Increased output of rubber and oil palm on account of favorable weather and imported oil palm to maintain stock. (3) Lower livestock prices, owing to the oversupply of swine, broilers, and eggs. Towards the end of the year, however, producers curtailed production, thus gradually bringing up prices. And (4) lower shrimp price following moderate orders from overseas, especially the U.S., while output from competitors such as India increased.

Δ%	2011	2012				
		Year	Q1	Q2	Q3	Q4
Farm income	22.6	-4.8	-7.9	-7.3	1.8	-3.1
Crop production <sup>p</sup>	9.3	5.3	4.0	4.6	13.0	2.3
Crop price	12.1	-9.6	-11.5	-11.4	-9.8	-5.3

Note: Farm income does not include government transfers, which consist of farmers' price compensation under the income guarantee scheme and compensation for production costs for farmers affected by natural disasters.

p = preliminary data for latest year

Sources: Office of Agricultural Economics and Bank of Thailand

Agricultural output expanded by 5.3 percent from the previous year on the back of favorable weather conditions. Rice benefited from suitable amount of water and new crop, replacing those that had been damaged by last year's flood. Output of rubber and oil palm rose due to an increase in plantation area over the past several years. Cassava output also went up, owing to suitable weather conditions and easing of the pest outbreak.

In 2013, farm income is expected to increase from both output and price factors. Rubber and oil palm, in particular, are expected to perform well as plantation area had been increased in the past few years due to favorable prices. Rice production may moderate somewhat, owing to possible droughts, but will be partly offset by more planting due to price incentives as a result of the rice pledging scheme.

<sup>1</sup> Farm income refers to income that excludes government measures.

Agricultural prices are expected to show an increasing trend in line with rubber prices. This will be aided by stronger demand from China, consistent with the global economic recovery, as well as higher prices of livestock, especially swine, broilers, and eggs due to production cutback. Rice price is expected to remain stable on account of the extension of the rice pledging scheme.

### Thai Agricultural Prices

(Unit: Baht per ton)

	2011	2012	2012					
			H1	H2	Q1	Q2	Q3	Q4
<b>Agricultural Price Index</b>								
(1995 = 100)	168.4	152.2	154.5	150.0	156.8	152.2	148.8	151.1
Δ%	12.1	-9.6	-11.4	-7.6	-11.5	-11.4	-9.8	-5.3
<b>1. Crop Price Index</b>								
(1995 = 100)	188.0	169.8	173.0	166.6	175.3	170.7	165.7	167.4
Δ%	12.2	-9.6	-11.8	-7.5	-12.3	-11.2	-9.4	-5.5
Hom Mali Paddy	13,035	15,103	14,832	15,373	14,998	14,665	15,246	15,500
Δ%	-3.8	16.3	21.6	10.9	23.0	20.2	18.2	4.5
Paddy Class 1 (5%)	9,145	10,104	9,986	10,221	9,736	10,236	10,275	10,168
Δ%	8.3	12.0	20.6	3.4	16.3	24.8	8.3	-1.1
Rubber	127,958	89,974	100,322	79,627	102,563	98,080	80,180	79,073
Δ%	24.8	-29.1	-31.3	-26.8	-31.4	-31.2	-35.3	-15.5
Maize	8,161	9,048	8,832	9,265	8,587	9,077	9,480	9,050
Δ%	3.1	10.6	3.7	17.4	1.2	6.3	25.5	10.0
Cassava	2,381	2,016	1,923	2,108	1,960	1,887	2,060	2,157
Δ%	4.7	-12.5	-27.6	2.5	-30.1	-24.7	4.0	1.1
Oil palm	5,391	4,773	5,338	4,207	5,353	5,323	4,950	3,463
Δ%	23.5	-8.4	-5.6	-11.3	-13.3	3.6	0.1	-23.7
<b>2. Livestock Price Index</b>								
(1995 =100 )	128.3	113.8	115.4	112.1	113.8	117.1	113.4	110.9
Δ%	11.4	-11.3	-9.4	-13.1	-7.8	-10.9	-15.4	-10.7
<b>3. Fishery Price Index</b>								
(1995 =100 )	99.5	97.5	94.6	100.4	102.3	86.9	93.8	107.0
Δ%	16.9	-2.0	-6.4	2.4	1.6	-14.3	-2.5	7.2

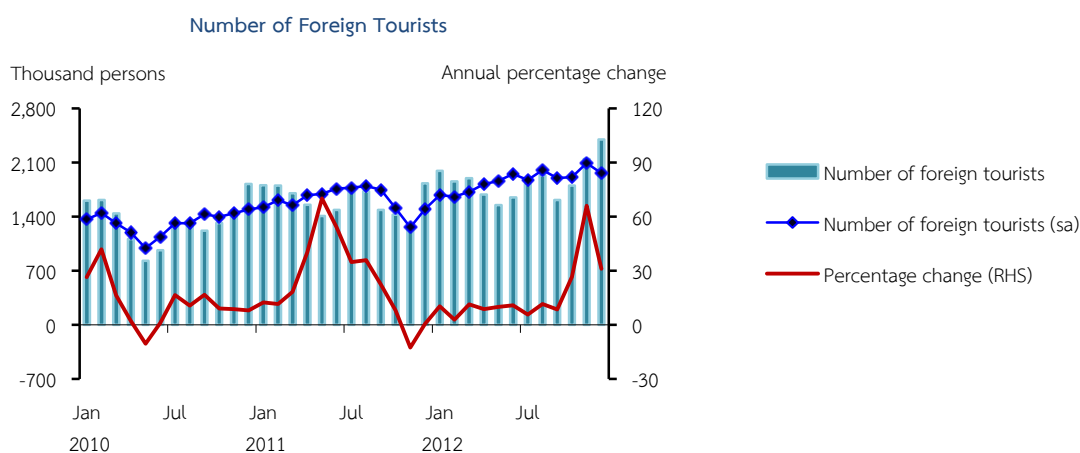
Note: Δ% indicates percentage change from the same period last year

Source: Office of Agricultural Economics

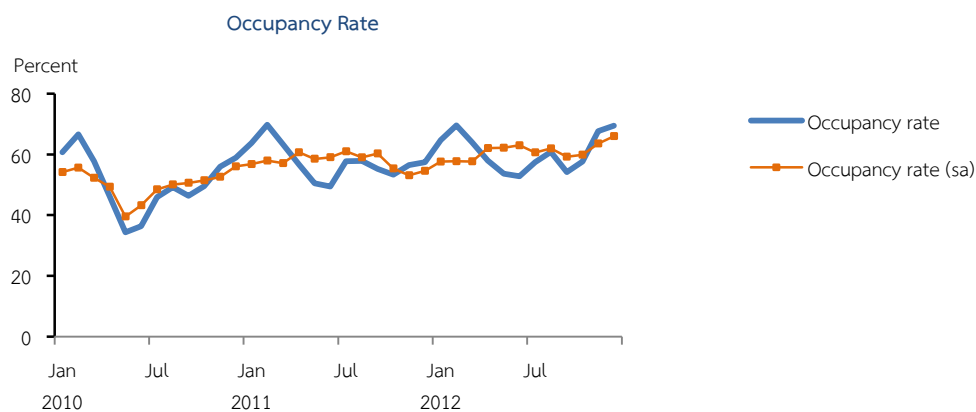
### 2.3 Tourism Sector

Thailand's tourism sector posted robust growth, relatively unscathed by the global downturn.

The number of foreign tourists reached a historical record of 22.3 million in 2012, rising by 16 percent from the previous year following an increase in foreign tourists from all regions, notably from East Asia and ASEAN. The number of inbound tourists from Europe was still relatively stable despite their debt crisis because Thailand has become a favorite tourist destination which is worth the value of money. Meanwhile, the major component of foreign tourists is increasingly Asian, with rising number of visits, thereby stabilizing the spending per capita. Moreover, during the last quarter of the year, the number of tourists was boosted by increased number of flights and reopening for services of the Don Muang Airport in October.



Source: Department of Tourism and Bank of Thailand



Source: Bank of Thailand

## Tourism Indicators

	2011	2012 <sup>P</sup>				
		Year	Q1	Q2	Q3	Q4
1. Number of foreign tourists (million persons)	19.2	22.3	5.7	4.9	5.4	6.3
Δ%	20.7	16.0	8.1	9.8	8.6	39.6
2. Income from tourism (billion baht)	829.1	1038.7	280.3	217.7	236.2	304.5
3. Occupancy rate (percent)	57.5	60.9	66.0	54.8	57.5	64.8

Note: P = Preliminary data

Δ% represents percentage change from the same period last year

Sources: Department of Tourism and Bank of Thailand

## Foreign Tourists Classified by Nationality

Country	Change (percent)		Market share (percent)	
	2011	2012	2011	2012
East Asia	26.7	20.8	53.8	56.1
- Malaysia *	21.4	2.4	13.0	11.5
- China	53.4	62.1	9.0	12.5
- Japan	13.5	21.6	5.9	6.2
- Korea	24.9	16.2	5.2	5.2
- Laos *	24.7	6.6	4.6	4.3
- Singapore *	13.1	20.3	3.6	3.7
Europe	14.8	10.1	26.5	25.2
- Russia	63.5	25.0	5.5	5.9
- United Kingdom	4.2	3.0	4.4	3.9
The Americas	12.8	13.4	5.0	4.8
South Asia	16.4	11.4	6.0	5.8
- India	20.3	11.0	4.8	4.6
Oceania	18.2	12.1	4.9	4.7
Middle East	5.6	0.6	3.1	2.7
Africa	7.8	17.4	0.7	0.7

Note: \* According to Department of Tourism's region classification

Source: Department of Tourism

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## 2.4 Real Estate Sector

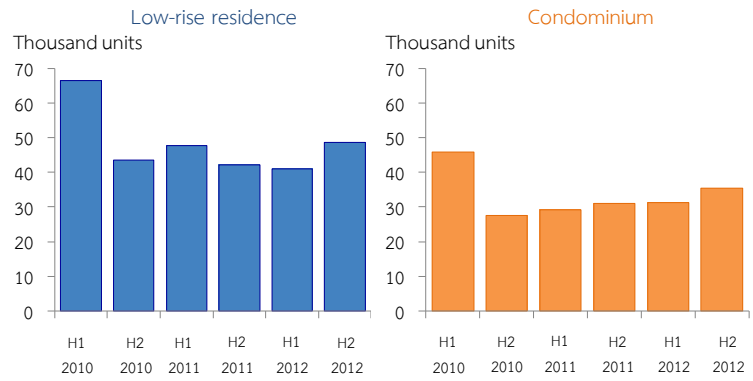
The real estate sector gradually recovered as developers launched a number of new condominium projects and expanded business into large provinces.

In 2012, the overall real estate market gradually recovered from the standpoint of both supply and demand after the flood last year. Demand for every housing category increased, reflected by the rising number of registration of transferred residential properties in Bangkok and its vicinity since the beginning of the year.

On the supply side, developers launched many new condominium projects, especially in the first half of the year, due partly to some postponement as a result of the flood. Meanwhile, the launching of low-rise residential projects was delayed further, pending flood prospects in 2012. Toward the end of Q3, as concerns regarding a possible new flood waned, new low-rise residential projects were launched and expanded into major provinces such as Chonburi, Khon Kaen, Nakorn Ratchasima, Chiang Mai, Phuket, Had Yai, Udon Thani, and Ubon Ratchathani.

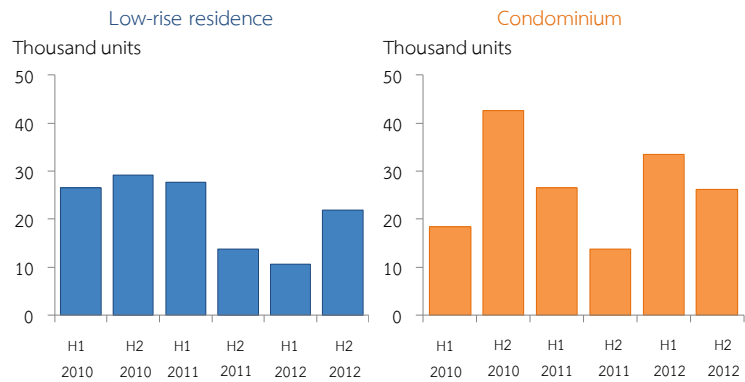
Housing prices, especially for condominiums, continued to climb since the beginning of the year. Nevertheless, such buoyant price had yet to be a source of concern since it was consistent with the higher cost of production, namely, prices of land and construction materials, as well as labor costs.

### Registration of Transferred Residential Properties in Bangkok and Its Vicinity



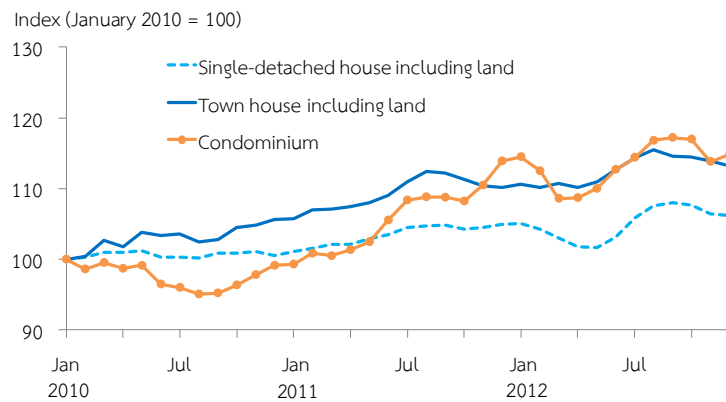
Source: Real Estate Information Center (REIC)

### New Residential Projects in Bangkok and Its Vicinity



Source: Agency for Real Estate Affairs (AREA), calculations by Bank of Thailand

### Housing Price Indices in Bangkok and Its Vicinity



Note: New credit extended by commercial banks, calculated using the hedonic regression method (seasonally adjusted, 3-month moving average)  
Source: Bank of Thailand

## Rebuilding Key Industries in the Aftermath of the Flood and Prospects for the Future

2012 was a year of reconstruction for the manufacturing sector, in particular the automobile and electronics industries, due to severe impacts from the floods at end-2011. The recovery speed of each industry differed, depending on factors such as demand prospects at that time, capital availability and specifications of machinery and equipment. Going forward, growth prospects of these industries will depend on enhancement of production efficiency to attract new investments and keep up with technological advances.

### Automobile Industry

After the flood situation subsided, manufacturers pressed ahead with their reconstruction process to resume production to meet pent-up demand, which was due to the impacts of the floods and the government tax rebate scheme for first-time car buyers. Initially, some automobile parts were imported to replace those that could not be produced domestically. Later on, imports were gradually reduced after factories were able to produce the parts again. The recovery process took a relatively short time, supported by the sound financial position of major manufacturers. Honda Automobiles (Thailand) Co. Ltd., for example, was directly affected by the floods but was able to resume production within only three months. Moreover, strong cooperation among those in the supply chains aided the quick recovery as automobile manufacturers with technical readiness gave technical assistance to suppliers of automobile parts. As a result, automobile production was back in full scale in April 2012, and two months afterwards, production of automobile parts was able to fully recover.

With production back to normal, manufacturers took the opportunity to expand production capacity to accommodate the strong domestic demand, attributable to the impact of the tax rebate for first-time car buyers, with automobile sales substantially exceeding the government's expectation. This resulted in a historical record of automobile production. However, this raised a question that, with the termination of the measure on December 31, 2012, what are the prospects for the automobile industry in 2013?

According to our assessment, automobile production will continue to expand close to its level in 2012 due to several drivers. *First*, according to the tax rebate scheme, approximately 570,000 automobiles will need to be gradually delivered in 2013. *Second*, Thailand's automobile export markets are diversified, with many showing an increasing trend, for example, Asia, the Middle East, and Oceania. Therefore, it is expected that strong external demand would be able to offset the moderating domestic demand arising from the termination of the tax rebate scheme. With such encouraging prospects, manufacturers of

automobiles and parts have made new investment to increase production capacity. Moreover, manufacturers of automobile parts from Japan intend to further expand their production base into Thailand, which would facilitate further growth of the Thai automobile industry in the periods ahead.

### Electronics Industry

Production of Thailand's electronic products came to a halt in the first half of 2012 due mainly to the impacts of the floods. As Thailand is the world's major producer of hard disk drive (HDD), the halt created global shortages and drove up world prices which in turn motivated manufacturers to speed up the reconstruction process and import machineries to restore production capacity. Most manufacturers were able to quickly restore production since 2012 Q2 as their parent companies were world corporations with financial strength. However, for electronic tubes and parts, the recovery was delayed as some manufacturers needed to wait for insurance claims for the rehabilitation process while others needed to find new partners to jointly invest in new machineries. There was also a delay in the imports of machineries since they had to be made according to specific requirements and had to be thoroughly examined to meet the strictest cleanliness standard. The electronic tubes industry thus took longer than others to recover.

Although the production capacity of the electronics industry partially recovered, it was faced with another obstacle from the global economic downturn in the latter half of 2012. This caused some companies to reduce the number of work days which in turn caused overall electronics production to fall below its pre-flood level. Nevertheless, in the last quarter of 2012, there were signs of a recovery owing to better prospects of external demand. Efforts for further reconstruction and increase in production capacity therefore intensified, and is expected to gradually recover going forward.

In the long run, Thailand's electronics industry will continue to face challenges from technological advances, notably from HDD to Solid State Drive (SSD)<sup>1</sup>. At present there has yet to be an investment in SSD production in Thailand. In the future, as demand for SSD replaces that for HDD technology, Thailand will need to make vital adjustments by enhancing production efficiency and developing other strategies to attract new investments for the advancement of the industry.

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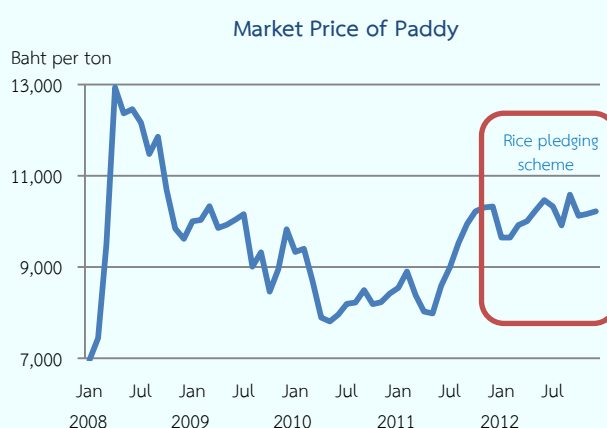
<sup>1</sup> Solid State Drive (SSD) is a data storage device using integrated circuit assemblies as memory to store data, which is different from HDD which uses disks to store data.



## The Rice Pledging Scheme

Since the end of 2011, the government had implemented the rice pledging scheme without any quantity limitation to increase income for farmers. The pledging price was at a record high: maximum of 20,000 baht per ton for Hom Mali paddy, and maximum of 15,000 baht per ton for paddy. Although the rice pledging scheme was expected to raise income and purchasing power of farmers, it was noted that such scheme had also led to changes in the trading pattern and production of rice, including incentives for long-term developments for Thailand's agricultural sector.

The rice pledging scheme without any cap on quantity was designed to push up the price of rice in the domestic market, with the government replacing the private sector as the major buyer. After the scheme was launched, the market price of paddy went up, averaging 10,000 baht per ton in 2012, a significant increase from 8,000-8,500 baht per ton prior to the scheme. The market price, however, was 5,000 baht per ton lower than the stated pledging price. This indicated that the government's scheme was unable to push up the paddy price to the expected level.



Source : Office of Agricultural Economics

Because the price of paddy under the scheme was higher than the market price by a hefty 40 percent, the scheme attracted many farmers, with none of them redeeming their paddy. Paddy output under this scheme, therefore, became the government's responsibility. It was estimated that when the rice pledging scheme for 2012/2013 ends, the government would have a substantially higher stock of rice, increasing from the previous year by 14.4 million ton.

**Table 1: Overview of the Rice Pledging Scheme**

		Paddy under the scheme (million ton)	Government's rice stock ** (million ton)
Production year	2011/2012	21.6*	13.0
Production year	2012/2013	24.0**	14.4

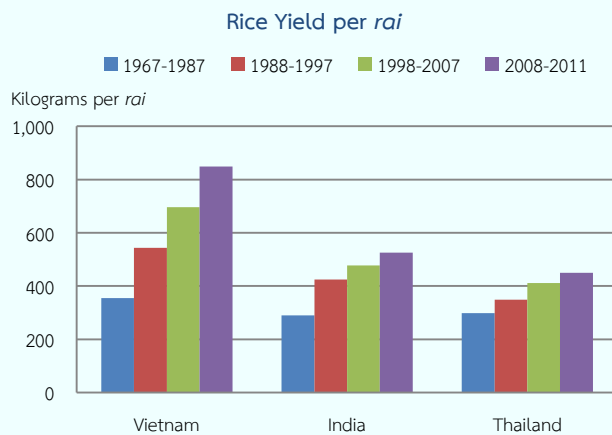
\* Office of Agricultural Economics, Ministry of Agriculture and Cooperatives

\*\* Calculation by the BOT. The rice stock is the quantity of paddy projected to join the scheme multiplied by a conversion rate from paddy into rice (if there is no unwinding of stock)

In addition to the burgeoning stock, the government is also responsible for other costs, from buying the paddy from farmers to selling the rice in stock, including other administrative costs<sup>1</sup>. There is also the possibility of loss should the quality of stocked rice degrade.

Furthermore, the rice pledging scheme also had a negative impact on Thailand's competitiveness because export price of rice had become higher than that of competitors'. The difference between the price of Thai rice and Vietnamese and Indian rice is larger than usual<sup>2</sup>. Moreover, competition in the world market intensified since India increased its rice exports in September 2011 to wind down stock. As a result, Thailand was no longer the world's largest exporter of rice. In 2012, Thailand exported 6.7 million ton of rice, or only 17 percent share of world exports<sup>3</sup>, while India and Vietnam exported a historical record of 10.1 and 7.8 million ton, respectively.

In addition, since the introduction of the scheme, farmers tended to focus more on quantity rather than quality. Thailand's yield per *rai* generally increased at a lower pace than that of competitor countries'. During 2008-2011, Thailand's yield per *rai* rose at an average of 0.5 percent per year, lower than that of India (0.9 percent) and Vietnam (2.6 percent). As Thai farmers now have greater incentive to produce more, they will rather increase the planting area than enhance production effectiveness and become less concerned about managing costs and quality control. Such attitude would become a major obstacle to the country's long-term strength development.



Source : United State Department of Agriculture

Although the rice pledging scheme helped increase farmers' income and purchasing power, it also incurred important social costs. The scheme adversely affected both domestic and export markets and created distortion on farmers' production incentives. In effect, should this program continue for a long time, it would have a significant bearing on the country's budget and management of rice stock, an issue that must be taken into account in order to achieve an efficient and appropriate subsidy scheme.

<sup>1</sup> Administrative costs include payment to rice mills to transform paddy into rice, warehouse rental for storage and maintaining rice condition, inspection of the quantity and quality of rice, hiring government officials in the administration of the measure, and the government's borrowing cost.

<sup>2</sup> In general, Thailand's export price of rice is higher than that of Vietnam's by around 30 US dollars per ton. In December 2012, however, the difference shot up to 180 US dollars.

<sup>3</sup> Calculation based on data from the Department of Foreign Trade, Ministry of Commerce, which reports that world rice volume in 2012 is at 38.5 million ton.



### 3. International Trade and Balance of Payments

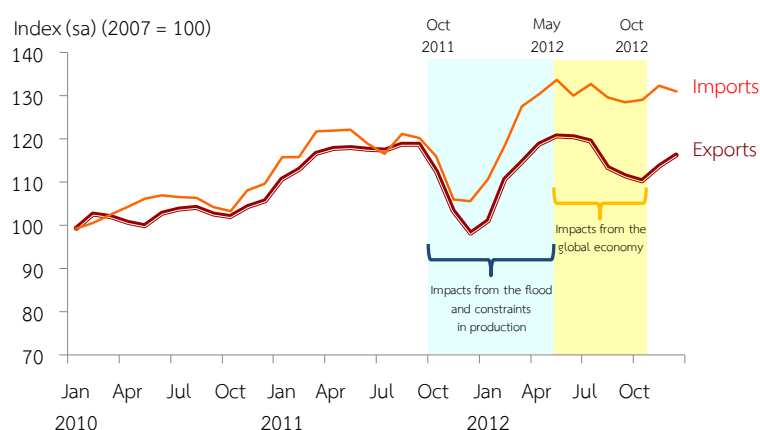
#### Exports

Exports were rather subdued due to constraints in the manufacturing sector during the first half of the year and global economic slowdown.

During the first half of the year, export growth was moderate, owing to the impacts of the flood which damaged production capacity of many export-oriented industries, including integrated circuits, hard disk drive, electrical appliances, and automobile. These accounted for approximately 30 percent of total exports. Despite the rather speedy recovery in production capacity, especially in the automobile and hard disk drive industries, impacts from the global economic slowdown became more apparent around the middle of the year. Export demand for most categories, especially from the EU<sup>1</sup>, therefore weakened.

<sup>1</sup> Thailand's export share to the EU in 2012 stood at 9.5 percent of total exports, compared to 10.9 percent in 2011.

## Export and Import Volume (excluding gold)



Source: Customs Department, calculations by the Bank of Thailand

Aside from the impacts of the global downturn, Thailand's exports were also affected by the 22.1 percent decline in agricultural exports. This owed mainly to the sharp fall in rubber prices and difficulties in the exports of rice due to higher prices compared to competitors. Therefore, despite the 6.1 percent increase in manufacturing exports, overall export value rose by a mere 3.2 percent, compared with 14.3 percent recorded in the previous year.

Exports are expected to have already bottomed out at the end of 2012 and are poised to gradually recover, with notable growth in the latter half of 2013, in line with trading partners' economic conditions. The expansion is expected to be driven partly by automobile exports after automakers have fulfilled domestic sale orders in the first half of 2013 and thus can increase production for exports.

## Export Value Classified by Product

Annual percentage change	2011	2012	2012			
			Q1	Q2	Q3	Q4
Manufacturing products	13.3	6.1	2.0	6.1	-4.8	25.4
Agro-manufacturing products	27.0	4.1	12.9	3.6	-3.2	4.4
Electronics	-2.5	0.9	-8.3	3.8	-14.7	34.4
Automobile	3.8	26.3	2.6	33.7	10.3	77.0
Petrochemical and petroleum products	31.1	6.9	25.9	4.8	-8.9	11.9
Electrical appliances	7.6	2.2	-7.9	1.0	-8.7	35.2
Metal products	13.0	21.3	-5.4	-0.6	24.2	72.3
Apparels and Textile Materials	7.1	-12.0	-15.3	-15.7	-15.5	0.5
Agricultural products	41.0	-22.1	-25.4	-23.1	-25.4	-13.6
Rice	20.4	-28.0	-38.7	-36.9	-34.1	5.0
Rubber	60.8	-31.1	-26.6	-27.5	-39.7	-30.6
Total exports	14.3	3.2	-1.4	1.7	-3.0	18.2
Total exports (excluding gold)	15.2	2.9	-0.9	2.7	-6.3	19.4

Sources: Ministry of Commerce and Bank of Thailand

## Imports

### Imports continued to expand in line with the recovery of the manufacturing sector and growth of domestic demand.

Imports continued to expand in almost every category, especially imports of capital goods, reflecting the need to replace machineries which had been damaged by the flood and to expand production capacity in keeping with domestic demand. Moreover, this reflected the adjustment to use more machinery in place of labor amidst tight labor market conditions and higher wages. Imports of automobile and parts were also higher than usual during the period when domestic production was suffering from the flood. Meanwhile, imports of consumption goods increased satisfactorily throughout the year in line with private consumption growth. Imports of raw materials and intermediate goods, however, registered lower growth than other categories, owing to the production constraint in the first half of the year and softening external demand in the second half of the year. Imports of gold declined from the previous year on account of higher world gold prices which led to a fall in import volume. In 2012, total imports grew 7.8 percent, compared with 24.9 percent in the previous year.

Looking ahead, imports are expected to increase, owing largely to imports of capital goods to support both public and private investments, as well as imports of automobile parts, raw materials and other intermediate goods. This would be in line with the recovery of export-oriented production, especially in the second half of 2013.

Import Value Classified by Product

Annual percentage change	2011	2012	2012 <sup>P</sup>			
			Q1	Q2	Q3	Q4
Raw materials and intermediate goods	19.8	4.2	7.6	0.1	-2.1	13.3
Fuel and lubricants	35.7	9.5	29.2	9.5	-1.0	4.5
Non-agro manufacturing products	11.5	2.8	-1.9	-3.3	-0.4	19.9
Capital goods	27.2	25.4	14.1	25.9	19.0	44.2
Consumer goods	24.2	13.1	14.5	13.3	10.6	14.1
Non-durable goods	24.7	11.5	11.3	14.0	12.7	8.2
Durable goods	23.2	16.1	20.7	12.0	7.1	25.7
Other imports	53.1	-5.0	15.0	33.5	-37.1	-8.5
Automobile and parts	10.1	43.4	16.8	56.7	40.8	61.3
Total imports	24.9	7.8	9.7	10.3	-2.5	14.9
Total imports (excluding gold)	20.5	11.5	9.4	9.9	5.6	22.6

Sources: Ministry of Commerce and Bank of Thailand

## Current Account

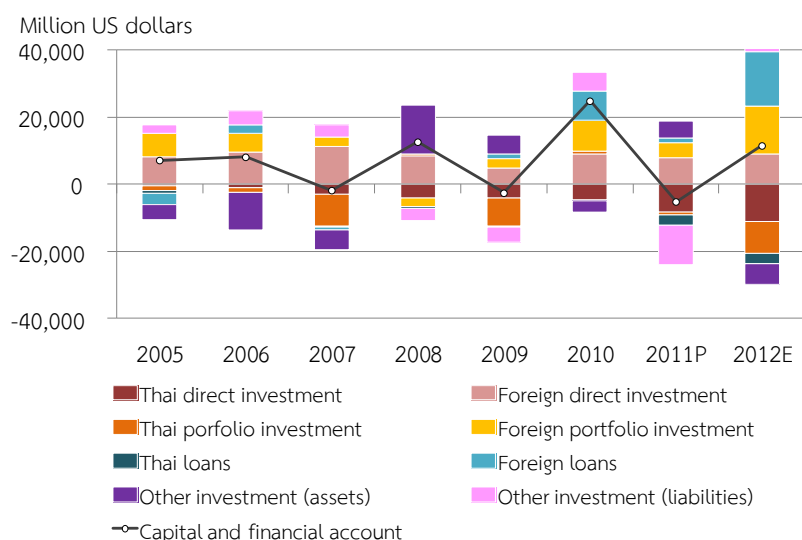
The slowdown in export growth in the second half of 2012 and continued import expansion led to a decline in trade surplus compared to the previous year. Meanwhile, the services, income, and transfers account recorded a smaller deficit. This stemmed from the rise in tourism income and continued transfer of claims from insurance companies abroad since the end of last year. Nevertheless, the decline in trade surplus outweighed the improvement in the services account, resulting in a smaller current account surplus from the previous year.

## Capital and Financial Account and the Balance of Payments

The balance of payments registered a net surplus of 5,265 million US dollars, compared with the 1,214 million US dollars surplus last year. This was on account of the **current account** and **capital and financial account** surpluses, with large influx of capital flows due to: (1) increased foreign investment in the equity market, consistent with other countries in the region, partly due to higher growth rates in these economies compared to those in other regions; (2) overseas borrowings by financial institutions, both short-term borrowings for liquidity management of swap transactions and long-term borrowings to support overseas investments by Thai firms; and (3) direct investment, especially in computer, chemical, and automobile industries, mostly by Japan and euro area countries.

At the same time, capital outflows increased from the previous year. This was largely due to a rise in intra-ASEAN investment, which accounted for a quarter of Thailand's direct investment abroad. The increase was aided by capital account liberalization measures and prospects for the ASEAN Economic Community. The increased outflow helped achieve a more balanced capital and financial account than in the past. The **capital and financial account** surplus, however, remained high. With surpluses in both the capital and financial account and current account, the balance of payments thus recorded a higher surplus than in the previous year.

### Financial Flows Classified by Type



Note: P = Preliminary data E = Estimated data

Source: Bank of Thailand

### Balance of Payment

(Unit: Million US dollar)	2011 <sup>P</sup>	2012 <sup>E</sup>	2012			
			Q1	Q2	Q3	Q4
Exports, f.o.b.	219,118	226,156	53,783	56,678	59,280	56,415
Δ% YoY	14.3	3.2	-1.4	1.7	-3.0	18.2
Imports, f.o.b.	202,130	217,819	52,675	55,220	54,274	55,650
Δ% YoY	24.9	7.8	9.7	10.3	-2.5	14.9
Trade balance	16,989	8,337	1,108	1,458	5,006	765
Net services income & transfers	-11,100	-5,609	293	-3,801	-2,259	159
Current account	5,889	2,728	1,401	-2,343	2,747	923
Capital and financial account	-5,233	11,477	3,699	-563	4,562	3,778
Assets	-7,114	-30,585	-13,934	-6,130	-2,489	-8,032
Thai direct investment	-8,221	-11,914	-3,663	-3,240	-2,599	-2,412
Thai portfolio investment	-874	-9,851	-4,996	-1,777	486	-3,565
Thai loans	-3,186	-2,850	-1,033	-1,316	4	-506
Other investment (assets)	5,167	-5,969	-4,242	203	-380	-1,549
Liabilities	1,922	41,840	17,545	5,566	6,918	11,810
Foreign direct investment	7,778	8,904	2,546	1,649	2,010	2,699
Foreign portfolio investment	4,458	14,529	6,315	1,409	4,296	2,509
Foreign loans	1,378	16,467	5,958	3,470	1,041	5,998
Other investment (liabilities)	-11,692	1,940	2,726	-962	-428	604
Net errors and omissions	558	-8,940	-2,412	-358	-2,176	-3,995
Overall	1,214	5,265	2,688	-3,263	5,133	707

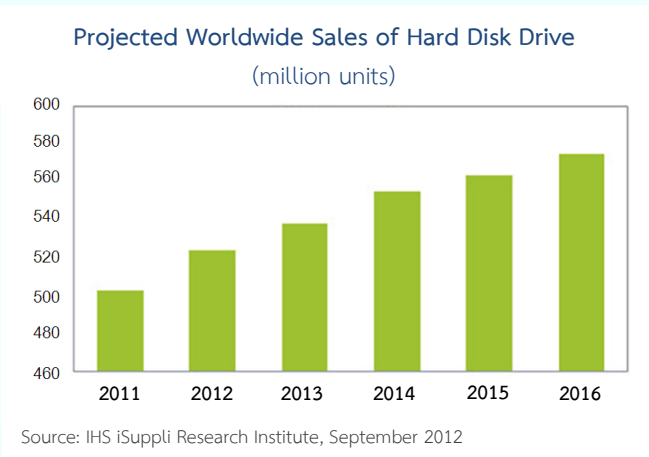
Note: P = Preliminary data E = Estimated data

Source: Bank of Thailand

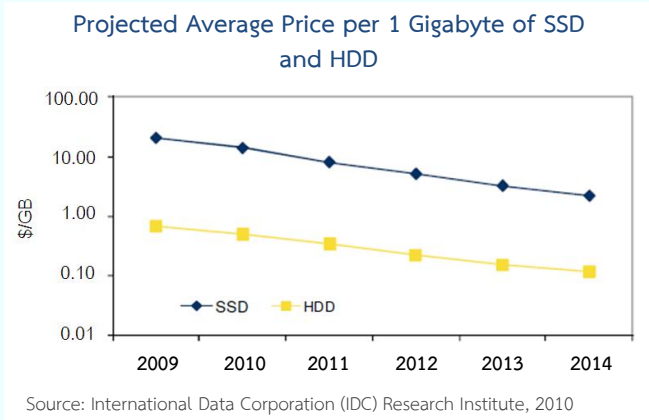
### The Future of the Hard Disk Drive Industry

Production of hard disk drive as a data storage unit is a global industry, with production bases located in many regions, including the U.S., Europe (Ireland), and Asia (China, Korea, Malaysia, Singapore, and Thailand). The industry has enjoyed favorable growth over the past 50 years, with the exception of the 2000 dot-com crisis and disruption at end-2011 due to the floods in Thailand, the world's second largest exporter after China<sup>1</sup>. In 2011, the value of world exports of computer data storage unit totaled 72 billion US dollars. In 2012, Thailand's exports of hard disk drive accounted for 7.3 percent of total exports while output was 7.2 percent of total manufacturing production. Most hard disk drives produced in Thailand are used in computers.

The hard disk drive industry recovered in 2012 Q2 as production constraint problems arising from the floods were resolved in a relatively short time. However, in 2012 Q3, total sales dropped throughout the world<sup>2</sup>, owing to weak global economic conditions. More importantly, as smartphones and tablets increasingly gain popularity, the hard disk drive industry may play a lesser role in the future because these new gadgets use a new form of data storage unit called the solid state drive (SSD).



In 2013, improved global economic conditions are expected to facilitate a stronger growth of the hard disk drive industry. This is consistent with IHS iSuppli Research Institute's projection that in 2013 hard disk drive sales is expected to reach 537.9 million units, a 2.7 percent increase from the previous year. Despite the growing importance of SSD, demand for hard disk drive should remain moderate, owing to the following 3 supporting factors:



(1) The difference in price (average price per 1 gigabyte) as the price of SSD is approximately 13 times higher than the price of hard disk drive. This is due in part to lesser worldwide production capacity of SSD.

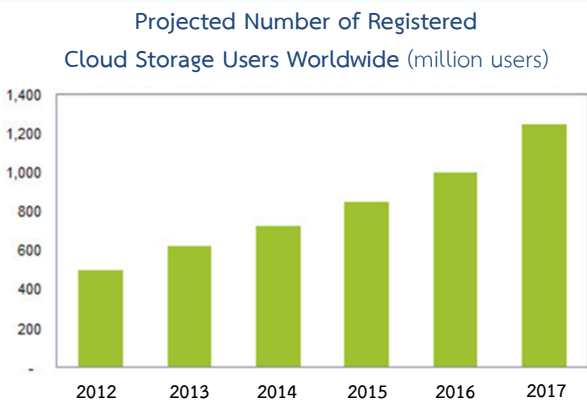
<sup>1</sup> In 2011, Thailand's exports of storage units accounted for 14.5 percent of total world exports, while China's share was 22 percent.

<sup>2</sup> IHS iSuppli Research Institute, November 16, 2012.

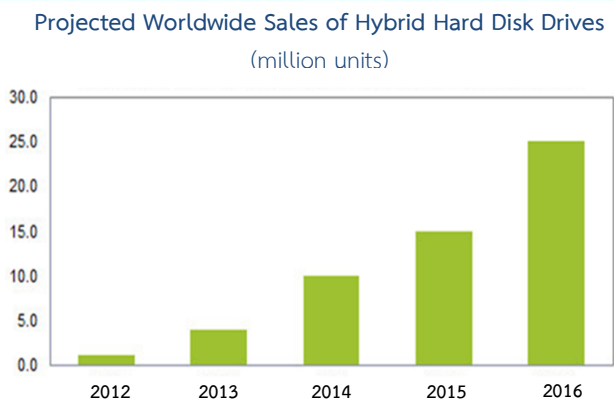


(2) Stronger demand for Cloud Storage<sup>3</sup>. As a result, service providers will still need hard disk drives to store data at the destination point, which will fuel the need for hard disk drives with larger storage capacity. This, in turn, would have a positive effect on Thailand, as its production base is showing a similar trend for hard disk drive production<sup>4</sup>.

(3) Continuation of research and development for a lighter weight and larger storage capacity of hard disk drive, including other innovations such as developing a hybrid hard disk drive – combining strengths of both the hard disk drive and SSD. These would create opportunities for further growth of the hard disk drive industry, as well as Thailand's manufacturing and export sectors in the periods ahead.



Source: IHS iSuppli Research Institute, October 2012



Source: IHS iSuppli Research Institute, September 2012

<sup>3</sup> Cloud storage is an online data storage service, storing data in the memory of service providers at the destination point.

<sup>4</sup> According to information obtained through interviews with manufacturers, some have already switched to produce hard disk drives with larger storage capacity, for example, 1 terabyte.



## 4. Domestic Demand

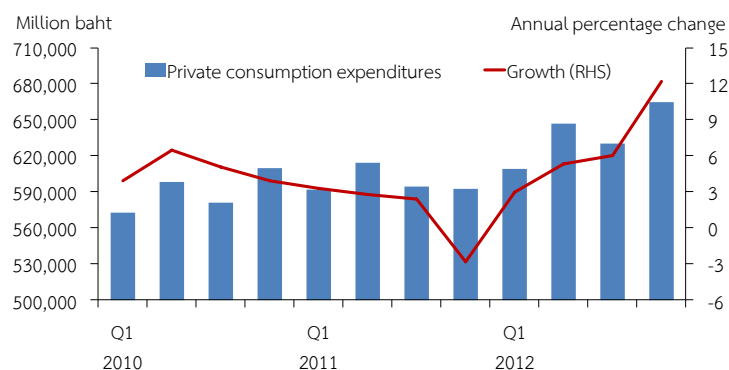
### 4.1 Private Consumption

Private consumption expanded from 2011, thanks to higher average income of households and government stimulus measures, especially the first-car tax rebate scheme.

In 2012, private consumption grew in line with higher average income in both farm and non-farm households. This was a result of expansions in crop production, in particular rice, rubber and cassava due to increased plantation area and favorable weather conditions. The government's rice pledging scheme also helped boost farmers' income. In addition, on April 1, 2012, the government raised the minimum wage in seven pilot provinces to 300 baht per day and hiked up the minimum wage by 40 percent in the remaining 70 provinces, which consequently led to wage increases of other workers given the tight labor market condition as reflected in the low unemployment rate and a rise in the number of overtime hours in the manufacturing sector. This increase in income, given low inflation and no unusual surge in inflation despite the minimum wage hike, improved consumers' purchasing power and boosted their confidence.

Furthermore, government measures helped stimulate spending, particularly the tax rebate scheme for first-time car buyers which was expected to reach 680,000 cars in 2012. Meanwhile, there was no indication that the purchase of cars lowered spending on other goods as reflected in an increase in VAT collection both in durable and non-durable goods.

Private Consumption Expenditures at 1988 Prices



Source : Office of the National Economic and Social Development Board

Domestic Automobile Sales

	2011	2012	2012			
			Q1	Q2	Q3	Q4
Domestic automobile sales* (thousand units)	795.3	1,435.9	279.3	327.2	393.8	435.6
Annual percentage change	-0.6	80.6	17.1	69.2	64.8	250.5

Note: \*Include passenger and commercial cars

Source: The Federation of Thai Industries

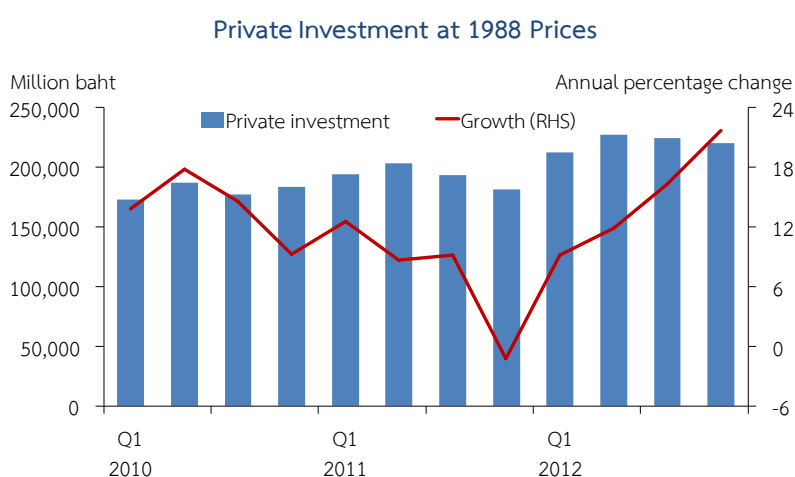
For 2013, consumption is expected to serve as the key driver of Thai economic growth, with households' purchasing power gaining support from (1) strong employment prospects, (2) continued government measures including the nation-wide minimum wage hike to 300 baht in the remaining 70 provinces, the rice pledging scheme and the corporate income tax rate cut, and (3) accommodative monetary conditions. These factors will also help boost consumer confidence. Furthermore, impacts from the first-car tax rebate scheme will continue from delivery of backlog orders, especially in the first half of the year. In addition, those that had applied for the first-car tax rebate scheme one year ago will gradually receive their tax rebates. Nevertheless, households could spend more cautiously going forward, due to the debt repayment burden for those who borrowed to finance cars purchased under the first-car tax rebate scheme and higher cost of living on the back of domestic energy price restructuring, as well as the pass-through of higher wage costs from the second round of minimum wage increase on retail prices.

## 4.2 Private Investment

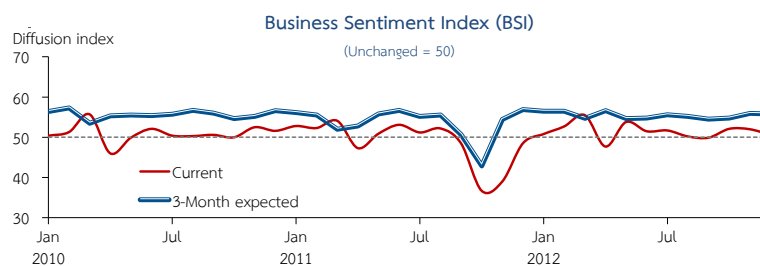
Private investment grew robustly from flood-damaged repairs, expansion of production capacity to keep up with domestic demand, and restructuring of the production process to reduce dependence on scarce and more costly labor.

Private investment surged throughout 2012 in tandem with flood-damaged repairs and replacements in the manufacturing sector, as well as gradual and continuous investments to expand production capacity to support domestic demand, to replace labor with machinery given tight labor market conditions and higher wages, and to accommodate an increase in neighbor country demand in anticipation of the launch of the ASEAN Economic Community (AEC). Factors supporting investments included businesses' confidence in the economic outlook, low cost of borrowing and persistently high corporate loan growth. Meanwhile, the global economic slowdown did not have a significant impact on private investment.

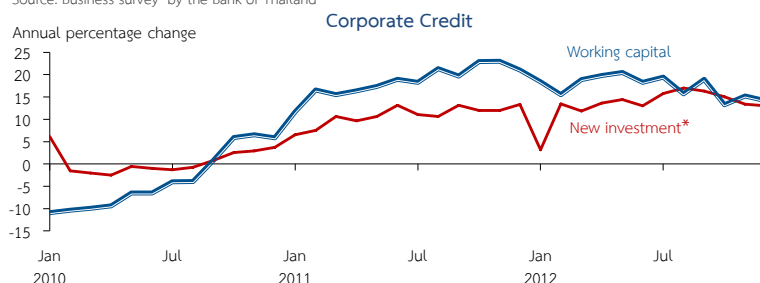
Investments were mainly in machinery and equipment for use in the electronics, electrical appliance, automobile, metal, and machinery and equipment production industries, as well as the purchase of commercial cars. At the same time, investment in construction came from flood-damaged building repairs, as well as construction of residential and commercial buildings, particularly in regional area. This was in tandem with real estate developers' trend of further expanding the market to major provinces.



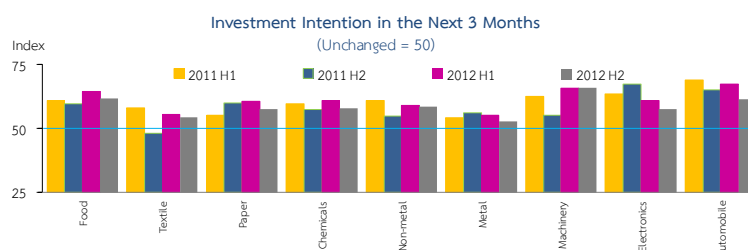
Source: Office of the National Economic and Social Development Board



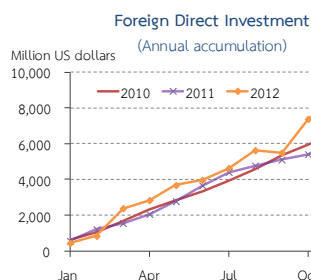
Source: Business survey by the Bank of Thailand



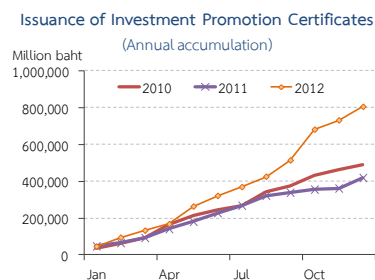
Note: \*New investment includes land, property, as well as machinery purchases.  
Source: Bank of Thailand



Source: Business Survey by the Bank of Thailand



Source: Bank of Thailand



Source: Board of Investment (BOI)

Looking ahead, private investment in 2013 is expected to expand further, being supported by (1) investments in machineries to replace labor given higher wages and ongoing labor shortage problems, (2) investments to keep up with domestic demand, including investments in utilities particularly energy, as well as 3G networks, and (3) investments to support higher demand from the integration of AEC, where Thailand has advantages in geographic location, infrastructure, labor skills and strong production networks, such as in the automobile industry. This trend is consistent with high levels of foreign direct investment and persistent increases in the issuance of investment promotion certificates by the Board of Investment (BOI) which is currently high compared to the past, especially in the service and utility sector, metal production, machinery, transportation

equipment, electronics and electrical appliances. Factors supportive of investments include businesses' confidence in the economic outlook and accommodative monetary conditions. However, constraints on construction investments could occur from labor shortages despite the use of prefabricated construction materials by developers to partly help reduce labor dependence.

### 4.3 Fiscal Sector

**The government continued to provide economic stimulus through a budget deficit and the implementation of measures to boost private spending.**

In fiscal year 2012, the government set up a fiscal deficit of 400 billion baht to rehabilitate the economy from the flood and implemented other stimulus measures such as the tax rebate scheme for first-time car buyers, tax deduction for first-time house buyers, measures to raise minimum wage and civil servants' salary, the rice pledging scheme and the corporate income tax cut. Furthermore, the government issued an Emergency Decree on Investment Loan for Water Resource Management and Future Development of 350 billion baht to invest in the water management system in order to prevent and reduce future flood-related damages.

Nevertheless, fiscal spending plans were not fully implemented. In fiscal year 2012, total disbursement amounted to 2,287 billion baht, or a disbursement rate of 90 percent which was lower than last year's rate, due to lower current and investment expenditures. This was caused by delayed enactment of the 2012 Budget Act and flood problems which prompted the government to give priority to the approval of the central budget to provide flood-related relief, which caused existing investment plans to change or be postponed. Furthermore, investment plans for flood prevention as stated in the Royal Decree on Investment Loans for Water Resource Management were still unclear and caused delays.

On the revenue side, the government was able to raise revenue of 2,355 billion baht, which was slightly higher than projected. This was due to an increase in consumption tax, especially from automobile purchases, despite lower corporate income tax collection on the back of flood problems, the corporate tax rate cut from 30 percent to 23 percent, and revenue loss due to an extension of the diesel excise tax reduction measure.

Continual stimulus spending caused public debt to rise by 489 billion baht, or 44.5 percent of GDP, an increase from last year's 42.7 percent. Although the public debt to GDP ratio was still within the fiscal sustainability framework, the increasing trend would render close monitoring going forward.

For fiscal year 2013, the government set up a budget deficit of 300 billion baht, or 2.5 percent of GDP, to stimulate the economy which would likely be affected by the fragile global economy and to restore and develop the country's infrastructure. In the first quarter of the fiscal year, the government continued to spend, mainly in carried over expenditures and back payments, for example, expenditure transfers to local government, some of which were carried over from fiscal year 2012, and expenditures to support government projects such as the subsidy to the Bank for Agriculture and Agricultural Cooperatives (BAAC) for the rice pledging scheme.

Apart from spending measures, the government will also provide stimulus via tax measures to enhance competitiveness, attract foreign investment and encourage private spending. Examples include measures to further cut the corporate income tax rate from 23 percent to 20 percent and reduce the personal income tax rate. Overall, revenue collection in FY2013 Q1 was satisfactory and in line with continuous expansion in private spending.

#### Fiscal Position <sup>1/</sup>

(Unit: Billion baht)

Fiscal year

	2009	2010 <sup>P</sup>	2011 <sup>P</sup>	2012 <sup>P</sup>
Cash receipts from operating activities <sup>2/</sup>	1,409.7	1,708.6	1,892.0	1,980.6
(Annual percentage change)		(21.2)	(10.7)	(4.7)
Cash payments for operating activities <sup>3/</sup>	1,609.1	1,565.0	1,801.9	1,981.7
(Annual percentage change)		(-2.7)	(15.1)	(10.0)
Net cashflow from operating activities	-199.5	143.7	90.2	-1.1
Net cashflow: investment in non-financial assets	190.7	147.0	201.5	229.6
Budget cash balance	-390.2	-3.3	-111.3	-230.7
Non-budget cash balance	-26.9	-195.2	-89.2	-57.2
: of which Stimulus Package 2	-14.9	-218.8	-61.1	-24.4
Overall cash balance	-417.1	-198.5	-200.5	-287.9
Net incurrence of liabilities	481.8	343.2	282.5	335.4
Use of treasury cash balance	-64.7	-144.7	-82.0	-47.5
Treasury cash balance (end of period)	294.6	439.3	521.3	568.8

Notes: <sup>1/</sup> These data were based on a cash basis (compliant with the Government Finance Statistics Manual: GFSM 2001 of the International Monetary Fund)

<sup>2/</sup> Revenue data in this table is on a cash basis received from Fiscal Policy Office

<sup>3/</sup> Excluding principle repayment

P = Preliminary data

Sources: Fiscal Policy Office, Ministry of Finance, and Bank of Thailand

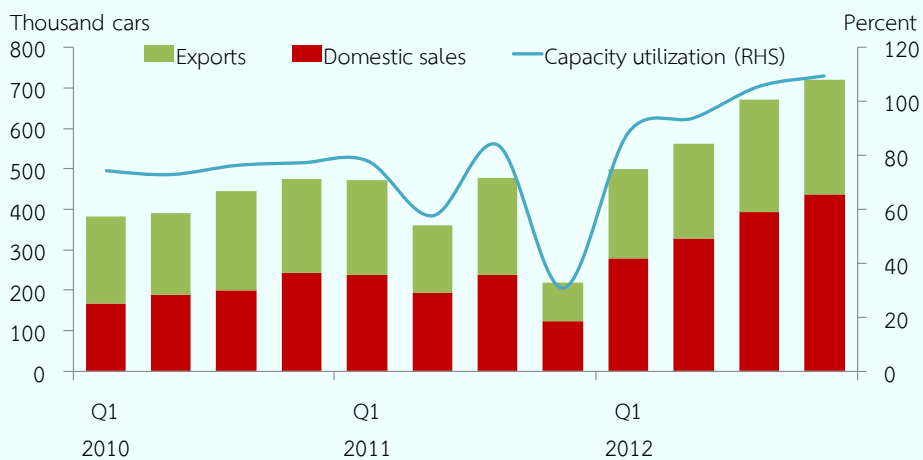
### Economic Impacts of the First-Car Tax Rebate Scheme

The government's first-car tax rebate scheme was initiated to improve people's quality of life by supporting those without opportunity to own a car to purchase their first car. The scheme started on September 16, 2011 and ended on December 31, 2012. Despite a low number of registrations at the beginning due to the impacts of the floods which caused a temporary halt in economic activities and the automobile industry, registrations eventually rose remarkably as recovery firmed up and production resumed. The scheme was well-received by people who already had plans to purchase this year as well as people who wished to purchase in the future, resulting in the number of registrations totaling 1.3 million, much higher than the government's target of 500,000. The tax rebate that the government would need to pay out thus totaled 91 billion baht, which would be received a year after ownership.

The scheme led to historical records of automobile production and sales in 2012 and helped boost related manufacturing and service industries. Moreover, the scheme also boosted additional investment in the automobile and related industries in response to high demand. Thus, it could be said that the scheme was an important driver of economic growth in 2012, details are as follows.

Automakers gave priority to domestic orders before exports and accelerated production to full capacity. As a result, the total number of cars produced last year reached a new record high of 2.4 million. The expansion of the automobile industry also benefited related industries such as automobile parts, insurance, and services. Even though the scheme ended at end-2012, it is expected that its impact would continue into the first half of 2013 given that delivery has not yet been completed. This partly motivated automakers to accelerate investment to expand production capacity, especially production of small-sized cars which has a high number of backlog orders.

Sales and Capacity Utilization in the Automobile Industry

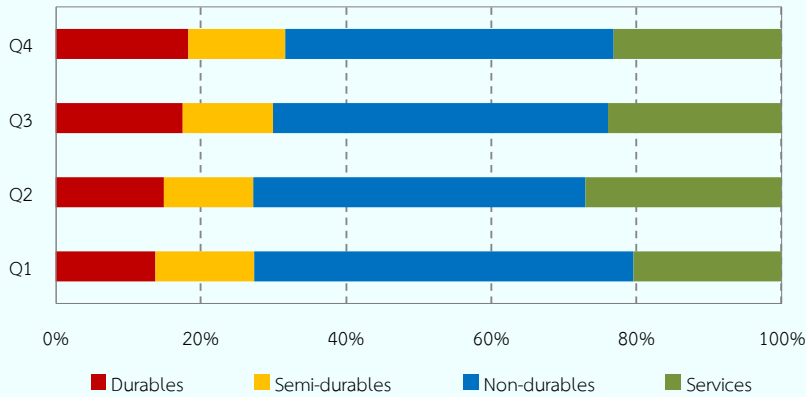


Sources : The Federation of Thai Industries and Office of Industrial Economics



Meanwhile, the first-car tax rebate scheme also helped stimulate households' spending. Sales in 2012 totaled 1.4 million cars, mainly small and economy cars which benefited the most from the scheme when taking into account their prices. Auto-leasing also accelerated as a result of the scheme. It is anticipated that the impact of the scheme

Composition of Household Consumption in 2012  
(by durability)

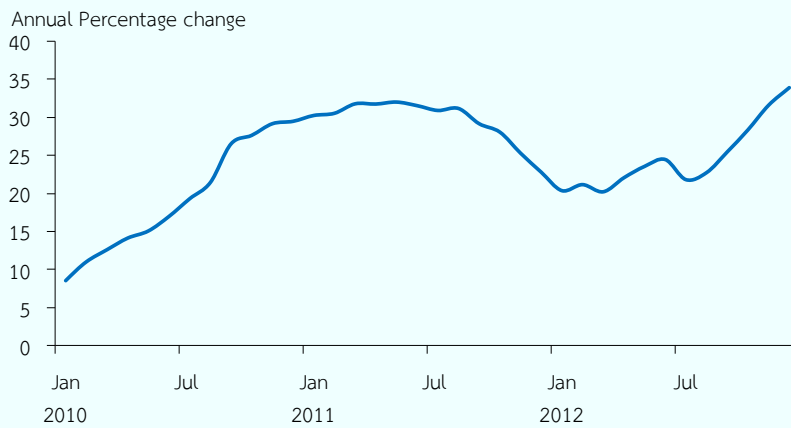


Source: National Economic and Social Development Board

especially on consumption of durable goods, namely vehicles, would last until at least mid-2013 due to gradual delivery. The tax rebate that would be paid out one year after ownership would in turn provide additional support for households' purchasing power.

At the same time, the acceleration in spending and production helped boost government revenue in 2012 in terms of corporate income tax and value added tax (VAT) even after considering that part of this revenue would gradually be returned to households who registered in the scheme.

Commercial Banks' Auto-leasing Loan



Source: Bank of Thailand

However, since the scheme encouraged those who wished to purchase cars in the future to bring such spending forward in order to reap tax benefits, it is possible that car sales could slow down in the next periods. Furthermore, there are risks to the household sector which would require monitoring going forward.

First, although there had not been any indication that other types of consumption were dented as a result of car purchases, households could eventually become more cautious in their spending, especially those that borrowed from financial institutions. Second and worse still, should households that took out loans were of weak financial positions in the first place, debt servicing ability could be affected, which in turn could lead to a deterioration in financial institutions' asset quality.



## 5. Monetary Conditions

### 5.1 Monetary Conditions and Exchange Rates

**Monetary conditions remained supportive of growth.**

In 2012, the Monetary Policy Committee (MPC) reduced the policy interest rate twice, totaling 0.50 percent per annum. The first decrease of 0.25 percent per annum took place on January 25, 2012 with the aim to expedite post-flood economic recovery. The second decrease of another 0.25 percent per annum took place on October 17, 2012 with the aim to cushion against incumbent risks from the global economy and to maintain domestic demand momentum. As a result, the policy interest rate stood at 2.75 percent per annum at the end of 2012.

Easing of the policy interest rate prompted short-term money market rates and bond yields to adjust downwards. At end-2012, the overnight interbank rate and 1-month government bond yield thus stood at 2.65 and 2.76 percent per annum, respectively. Meanwhile, the medium to long-term bond yields became more volatile during mid-year due to concerns over the global economic conditions which affected investors' demand,

both domestic and foreign, for financial assets. Then, towards year-end, yields increased as a result of an increase in supply.

Deposit and lending rates also adjusted downwards from end-2011 in line with the policy interest rate. At the end of 2012, averages of the 12-month time deposit rate and the minimum lending rate (MLR) of the four largest Thai commercial banks stood at 2.46 and 7.00 percent per annum, respectively, declining from last year's end levels of 2.87 and 7.25 percent per annum, respectively.

The accommodative monetary conditions in part boosted the buoyant demand for private credits. As of end-2012, private credits expanded by 15.3 percent from end-2011. In this connection, there was strong growth in corporate credits stemming from demand for post-flood restoration together with investment for production capacity expansion to keep up with domestic demand. Growth in consumer credits was also high, particularly in auto-leasing and other personal loans during the latter half of the year.

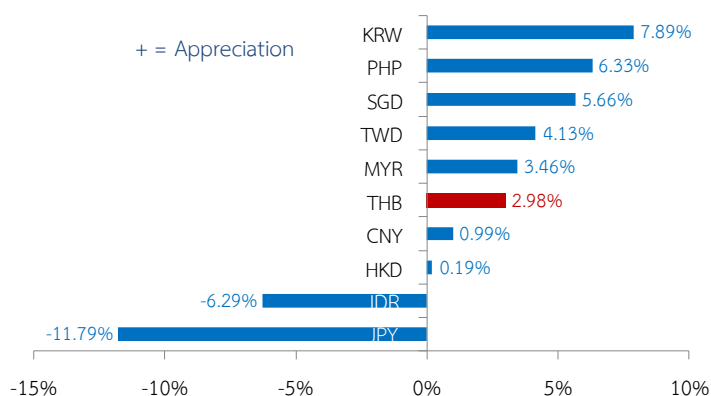
Financial institutions' deposits including bills of exchange as of end-2012 expanded by 11.1 percent from end-2011. The continuous growth throughout the year was in line with high demand for private credits.

**Investors' sentiment on the global economic and financial outlook was mainly responsible for two-way movements of the Thai baht relative to the US dollar.**

The Thai baht stood at 30.61 baht per US dollar at end-2012, strengthening from the beginning of the year by 2.98 percent, but at a lesser extent compared with regional trading partners' currencies. Throughout the year, movements of the exchange rate were mainly driven by developments abroad. During the first two months of the year, there was a sharp depreciation of the US dollar which caused the Thai baht to strengthen in relative terms. Such development owed primarily to improvements in investors' sentiment and demand for risky assets, which was driven by the approval of the second tranche of financial assistance from the EU and the International Monetary Fund (IMF) for Greece, together with considerable progresses made on debt restructuring plans. Later on, however, the weak global economy and concerns over the sovereign debt problem, which was prompted by signs of spillovers to the real sector and difficulties in the implementation of resolution measures, caused

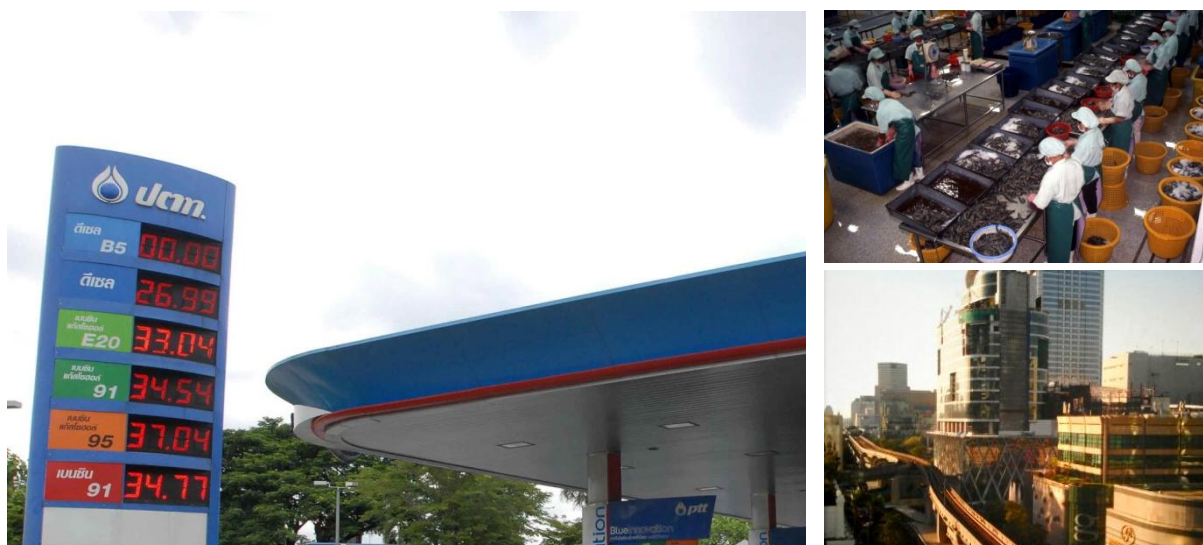
the US dollar to regain strength owing to its safe-currency status. As a result, the Thai baht weakened in relative terms. Then, towards the latter half of the year, the Thai baht resumed its appreciating path following foreign investors' return to regional and Thai financial markets after global economic and financial conditions became more stable.

**Movements of the Thai Baht and Regional Currencies  
Relative to the US Dollar in 2012**



Note: End-2012 data calculated as a percentage change from end-2011  
Sources: Bank of Thailand and Reuters

The appreciation of the Thai baht was more or less in line with regional currencies. The Nominal Effective Exchange Rate (NEER) and the Real Effective Exchange Rate (REER) at end-2012, however, strengthened from the beginning of the year by 3.55 and 2.87 percent, respectively, owing to the significant depreciation of the Japanese yen, particularly towards the end of the year.



## 6. Assessments of Thailand's Economic Stability

Thailand's economic and financial stability remained satisfactory overall. However, capital flow volatility, growth of certain types of consumer credits, and impacts from the minimum wage hike would be closely monitored.

### 6.1 Internal Stability

#### 6.1.1 Price Stability and Inflationary Pressure

Inflation slowed down from the previous year, thanks to softened prices of raw food and core inflation.

Headline inflation in 2012 slowed down from 3.81 percent last year to 3.02 percent due to the following factors. (1) The slowdown of raw food prices, particularly the meats, poultry and fish group as well as the eggs and dairy products group owing to excess supply problems in the first half of the year. (2) The slowdown of core inflation from 2.36 percent last year to 2.09 percent owing to a deceleration of prepared food prices in line with raw food prices. Together, these two factors offset the increase in energy prices which arose from increases in electricity fees as well as a decrease in electricity subsidy for some households since June 2012.

The first round of minimum wage increase on April 1, 2012 raised some concern regarding potential rise in inflationary pressure. However, given that other input costs, namely world energy and commodity prices, and inflation expectation were all rather stable, together with the fact that firms were reluctant to increase prices due to intense competition, no unusual cost pass-through to prices of goods and services was observed.

Looking ahead in 2013, inflationary pressure is assessed to remain benign. Despite continuous expansion in domestic spending which could add to demand-pull pressure, cost pass-through is expected to be gradual given stable cost-push pressure and inflation expectation.

Important risks that could cause inflationary pressure in 2013 to be higher than formerly assessed include the impact of the second round of minimum wage increase on January 1, 2013, particularly in terms of the psychological effect, and the impact of the government's plan to restructure domestic energy prices.

### Consumer Price Index

(Annual percentage change)

	Weight (percent)	2011	2012				
			Year	Q1	Q2	Q3	Q4
Consumer Price Index	100.0	3.81	3.02	3.39	2.52	2.94	3.23
- Core Consumer Price Index	75.5	2.36	2.09	2.74	2.00	1.84	1.82
- Raw food	14.6	8.66	4.40	5.78	4.21	4.78	2.92
- Energy	9.9	5.59	7.09	3.62	3.02	7.37	14.79
Producer Price Index	100.0	5.5	1.0	2.4	0.5	0.3	0.9

Source: Bureau of Trade and Economic Indices, Ministry of Commerce

### 6.1.2 Labor Market

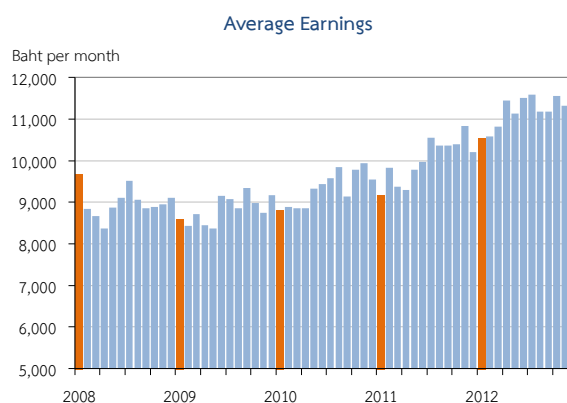
**The labor market tightened further from the previous year. Meanwhile, the minimum wage increase on April 1, 2012 did not result in widespread layoffs.**

Overall employment improved in line with the economic conditions. For the agricultural sector, employment rose with price incentive from the government's rice pledging scheme and favorable weather conditions. Meanwhile, employment in the manufacturing sector also expanded due to higher labor demand in response to post-flood expedited production to meet domestic demand. The first round of minimum wage increase did not result in widespread negative impacts on employment because most firms were able to adjust to retain workers under tight market conditions. Thus, unemployment rate continued to be low. Nevertheless, the

minimum wage policy did cause the overall earnings structure to shift upwards, resulting in higher average earnings especially in non-agricultural sectors.

Labor Market Indicators					
Annual percentage change	2011	2012			
		Q1	Q2	Q3	Q4
Employment	1.1	1.0	1.5	0.7	1.8
Agriculture	2.3	2.3	5.2	3.4	3.8
Non-agriculture	0.4	0.2	-0.8	-1.2	0.5
Manufacturing	-0.9	2.4	1.8	1.0	1.9
Others	0.8	-0.4	-1.5	-1.9	0.1
Unemployment (thousand persons)	264.3	278.0	338.4	230.8	188.0
Unemployment rate (%)	0.7	0.7	0.9	0.6	0.5
Underemployment (thousand persons)	383.6	352.9	379.5	304.2	355.8
Underemployment rate (%)	1.0	0.9	1.0	0.8	0.9

Source: National Statistical Office



### 6.1.3 Other Sectors

Economic and financial stability remained sound overall though there are risks that could lead to imbalances in the periods ahead including capital flow volatility, strong growth of consumer credits, and the impact of the second round of minimum wage increase.

#### Corporate Sector (Non-Financial Institutions)

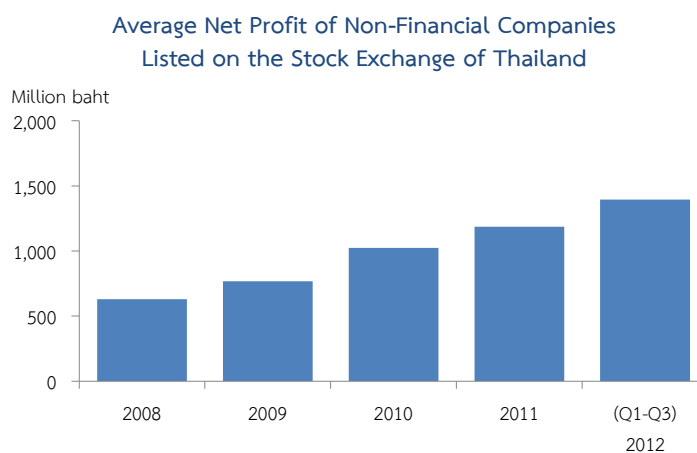
**Financial positions of the corporate sector remained strong.**

Financial positions of the corporate sector improved in 2012, thanks to the post-flood domestic economic recovery. This was reflected in the average net profit of non-financial companies listed on the Stock Exchange of Thailand during the first three quarters of the year which stood at 1,395 billion baht, up from last year's annual figure of 1,187 billion baht.

Looking ahead, corporate profitability is expected to improve further. Although Thailand's export sector, particularly, the electronics and jewelry industries, became more significantly affected by the global economic problem in the latter half of 2012, some improvements were already observed towards the end of the year. It is expected that a gradual recovery would continue in 2013 in line with improvement in the global economic outlook.

Nevertheless, important risks that could potentially affect corporate profitability and growth and therefore would be closely monitored include the following: (1) the increase in cost of

production owing to the minimum wage increase and (2) the problem of labor shortage, particularly in manufacturing and construction sectors.



## Household Sector

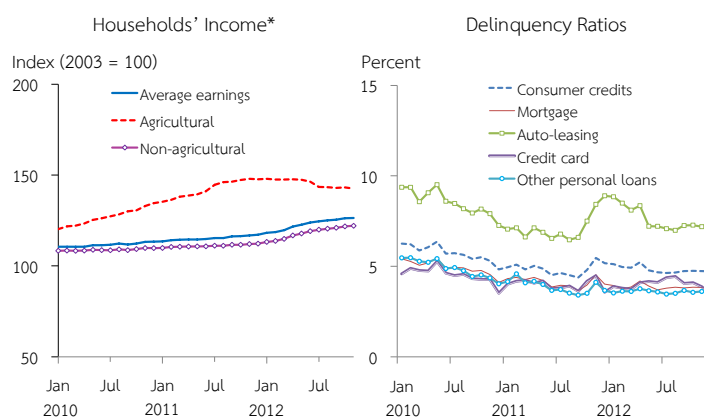
**Household sector stability remained sound though risks from high consumer credit growth must be closely monitored.**

Household sector stability in 2012 remained sound overall. Average earnings and employment continued to be high. Meanwhile, debt servicing ability did not change from the previous year as reflected by the ratio of delinquent consumer loans to total consumer loans which stabilized at approximately 5 percent.

High household income and employment coupled with various government stimulus measures and financial assistance to flood-affected victims, for example, the first-car tax rebate scheme and soft loans, as well as accommodative financing conditions, were all responsible for the persistently high consumer credit growth, especially auto-leasing and other personal loans, throughout 2012. This trend of rising consumer debt would be closely monitored in the periods ahead as it could adversely affect households' debt servicing ability and in turn deteriorate financial institutions' asset quality.



Indicators of Household Stability

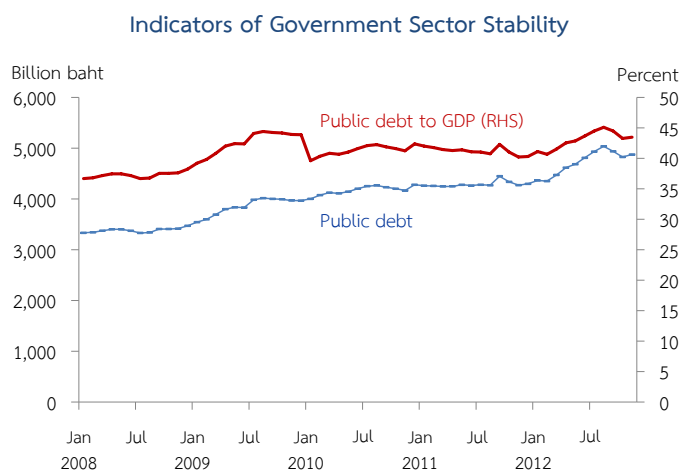


Note : \*Seasonally adjusted real income (12-month moving average)  
 Sources : Office of Agricultural Economics, National Statistical Office and Bank of Thailand

Government Sector

Overall Stability in the government sector remained satisfactory. Going forward, however, the ratio of public debt to GDP could go up.

Government sector stability remained satisfactory with the public debt to GDP well below the 60 percent threshold for fiscal sustainability. Looking ahead, three factors would be of concern. First, government spending would likely increase due to the government's ongoing fiscal deficit policy to stimulate the economy, namely the first-car tax rebate scheme, subsidies for non-budget funds, and non-budget spending, for example, the water management project and large infrastructural investments. Second, government revenue would likely decline as a result of various tax rate cuts including corporate tax and personal income tax. Finally, government guarantees would also expand given the approval for the Ministry of Finance to disburse additional loans for the rice pledging scheme. Taking all these factors together, it is assessed that public debt would be on the rise, and could undermine government sector stability, going forward.



Source : Public Debt Management Office (as of 31 January 2013)

### Real Estate Sector

The real estate market gradually recovered from the floods. Supply increased in response to demand, especially condominiums in the central business district. Prices edged up but remained in line with rising construction costs. Moreover, financial institutions' housing credit standards were in tandem with normal practice. Thus, the risk of a real estate bubble remained low.

However, important risks that would be monitored in the periods ahead include rising construction costs and foreign investments in the real estate sector which could drive up prices. Meanwhile, the low interest rate environment could also motivate speculative transactions which in turn lead to a real estate price bubble in the period ahead.

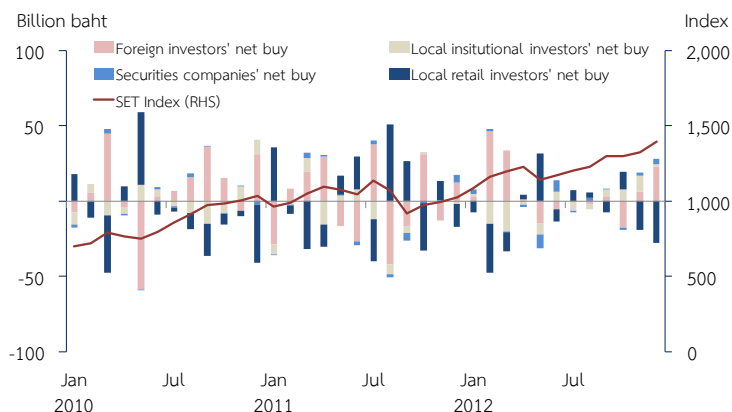
### Financial Market Volatility

The global economic outlook became more stable towards the end of 2012, prompting investors' return to emerging market economies' capital and bond markets, thereby causing the Stock Exchange of Thailand index to rise and the Thai baht to strengthen in line with regional currencies. Volatility of the Thai baht meanwhile declined.

In spite of that, uncertainties regarding global economic recovery remain. At the same time, accommodative monetary policies in major industrialized economies result in high global financial markets' liquidity which are highly sensitive to investor sentiment. Taken together, these factors could lead to volatile capital flows.

### Stock Exchange of Thailand Index

(as of December 2012)



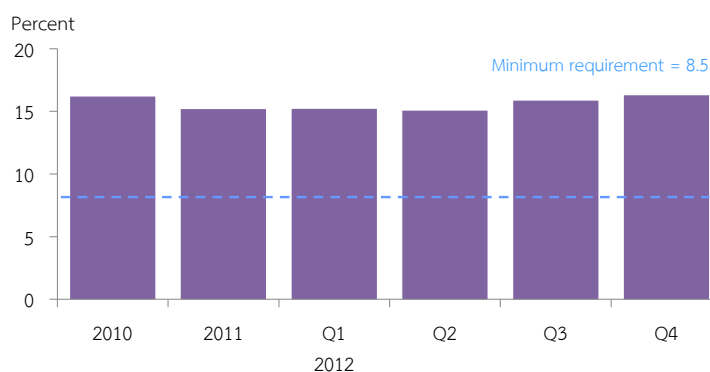
Source : Stock Exchange of Thailand

### Financial Institutions Soundness

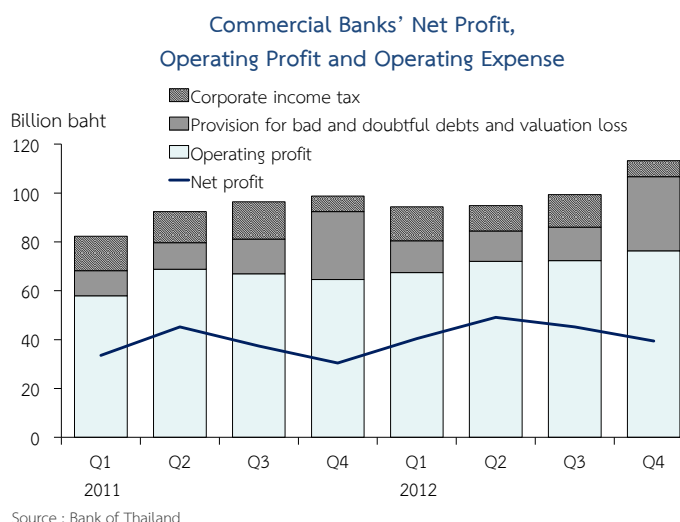
Thailand's financial institutions remained sound though risk to be monitored is development in consumer loans, especially auto-leasing and other personal loans.

The financial institutions sector remained sound in 2012 as reflected by the capital adequacy ratio, which was much higher than the legal requirement, and strong profitability. Both corporate and consumer credits continued to expand, especially in auto-leasing and other personal loans which were in line with the expansion in private spending.

### Commercial Banks' Capital Adequacy Ratio



Source: Bank of Thailand



Looking ahead, it is expected that credits would continue to grow as reflected by the latest Senior Loan Officer Survey in December 2012 which indicated that demand for both corporate and consumer credits in 2013 Q1 would increase from the previous quarter.

Important risks that could affect financial institutions stability in the next periods include the following: (1) the slowdown in the global economy which could adversely affect the corporate sector and hence credit quality, and (2) the persistently high growth in credits, particularly auto-leasing and other personal loans which could lead to potential deterioration in debt servicing ability and hence credit quality.

## 6.2 External Stability

**Thailand's external stability** was sound with the short-term external debt to total external debt ratio stabilizing close to last year's level. Despite declines in the current account surplus and the ratio of gross reserves to imports resulting from higher imports, these indicators were still considered high compared to international benchmarks.

External Stability Indicators

	International benchmark	2011	2012	2012			
				Q1	Q2	Q3	Q4
Indicators of debt servicing ability (percent)							
- Current account <sup>1/</sup> to GDP	n.a.	1.7	0.8	1.6	-2.6	3.1	1.0
- External debt to GDP <sup>2/</sup>	48-80 <sup>3/</sup>	33.8	38.8	36.7	36.6	37.7	38.8
- External debt to export value <sup>1/2/</sup>	132-220 <sup>3/</sup>	47.0	52.5	50.7	50.0	51.0	52.5
- Debt service ratio	< 20	3.4	n.a.	4.6	4.0	4.5	n.a.
Indicators of liquidity							
- Gross reserves to short-term external debt	> 1	3.7	3.0	3.1	3.0	3.2	3.0
- Gross reserves to import value (months)	> 3-4 months	10.4	10.0	10.4	9.9	10.5	10.0
- Short-term external debt to external debt (percent)	n.a.	45.2	45.5	49.2	49.2	45.3	45.5

Notes: <sup>1/</sup> Since October 2006, "Reinvested Earning" has been recorded as part of direct investment in the financial account and its contra entry recorded as "Investment Income" in the current account.

<sup>2/</sup> Using the averaged quarterly GDP for the last three years starting from the quarter considered

<sup>3/</sup> Benchmark for middle income countries, i.e. with GDP per capita of 756 – 9,265 US dollars per year

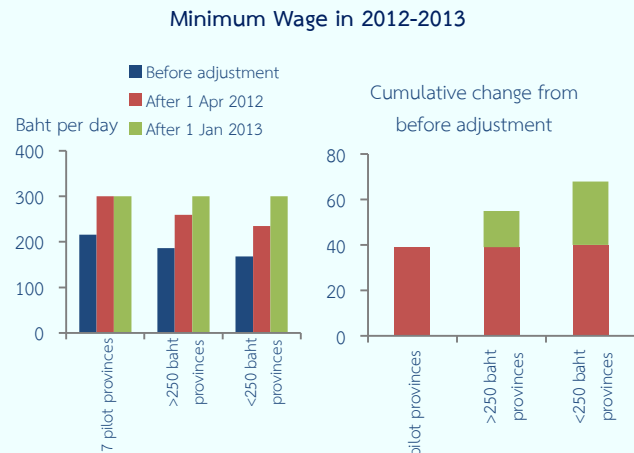
Source: Bank of Thailand

## Impact of the Minimum Wage Policy on Employment and the Economy in 2012

On April 1, 2012, the government began to implement the 300 baht daily minimum wage policy in seven pilot provinces<sup>1/</sup> and raised the minimum wage in the remaining provinces by 40 percent, before the second round hike to 300 baht later on 1 January 2013. After that, uniform level of minimum wage would be fixed until 2015. Overall, these adjustments were considered extreme compared to the past.



Source: Ministry of Labor

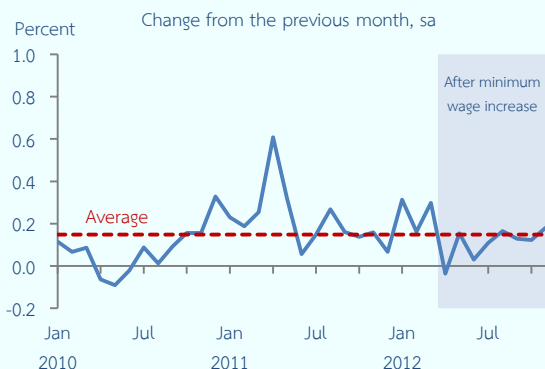


Source: Ministry of Labor

The first round of minimum wage increase caused the overall wages structure to shift, whereby nationwide private average earnings in 2012 Q2 and Q3 increased by 17.3 percent from the same period last year—higher than the average annual increase over the last five years of 5.9 percent.<sup>2/</sup> The increase in average earnings include both the direct effect of the minimum wage increase and the indirect effect of increases in other wage levels as businesses tried to ensure that different wage levels would continue to reflect different skill levels of labor.

However, **the increase in average earnings did not affect overall economic stability** and the rise in labor costs did not lead to significant inflationary pressure. No wide-spread impact on layoffs took place. Meanwhile, higher purchasing power from the increase in household earnings helped support consumer confidence, thereby leading to a strong expansion in domestic consumption

**Core Inflation**  
(excluding government measures to reduce cost of living)



Sources: Bureau of Trade and Economic Indices, Ministry of Commerce and calculations by Bank of Thailand

**Consumer Confidence of Future Income (sa)**



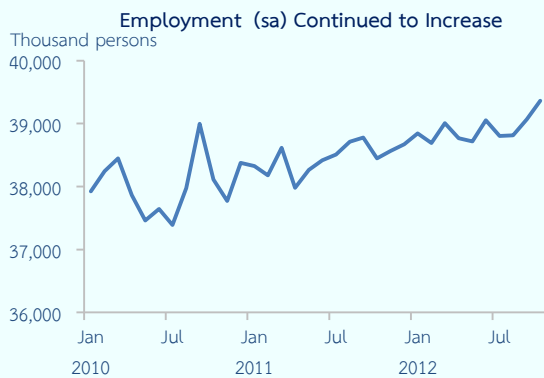
Sources: Bureau of Trade and Economic Indices, Ministry of Commerce and calculations by Bank of Thailand

<sup>1/</sup> The seven pilot provinces include Bangkok, Nakhon Pathom, Nonthaburi, Pathumthani, Phuket, Samut Prakan and Samut Sakhon.

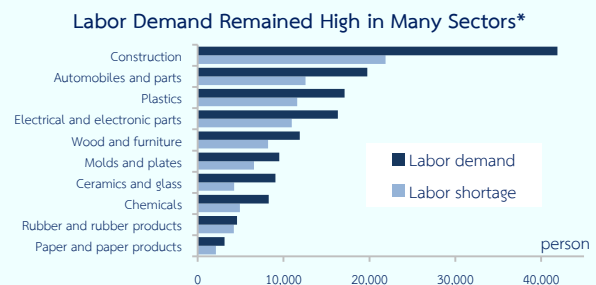
<sup>2/</sup> Calculated using the National Statistical Office's Labor Force Survey during 2004–2012, excluding the global crisis years (2008–2009).

**The impact on corporate profitability** was not a concern overall as most businesses were profitable enough to absorb the rise in wages while some were also compensated by the corporate income tax rate cut from 30 to 23 percent in 2012. However, some types of businesses were more affected by this wage policy, for example, labor intensive sectors and those with low profit margin, such as wholesale and retail trading businesses (except those in the seven pilot provinces that are large in size) and small and medium enterprises (SMEs) in the manufacturing sector. Nonetheless, these fragile sectors made adjustments, for example, wholesale and retail trading businesses formed groups to order products in large quantities to reduce average cost and used different promotion strategies to achieve higher sales turnover. Meanwhile, manufacturing businesses increased production efficiency and reduced other costs by 1) investing in new machines to improve production efficiency and replace labors, for example, in the agricultural processing, plastic products and furniture businesses; 2) improving and streamlining production processes in textile, garment and electrical appliance businesses; 3) increasing usage of prefabricated parts to reduce demand for labor, for example, in construction and real estate businesses; and 4) hiring based on output, for example, in textile, apparel and agricultural processing businesses.

**Firms' ability to adjust and absorb higher wages allowed overall employment to expand continuously.** Many businesses paid higher wages than the minimum wage to retain workers under extremely tight labor market conditions. Despite some layoffs and voluntary resignations to seek higher wages, new jobs were easily found. As such, in 2012 Q2 and Q3, it was observed that in all provinces there was labor migration into the seven pilot provinces where wages were increased ahead of other provinces and movement from SMEs to large corporate, particularly in the manufacturing sector.



Source: National Statistical Office and calculations by Bank of Thailand



\*Survey of labor demand and shortage in 2011 of 39,918 registered businesses in Thailand's Social Security system (except educational institutions, government offices and state enterprises) whereby labor shortage is defined as inability to fill required positions for more than 6 months.

Source : PMANP data system, Ministry of Labor

**For 2013,** it is expected that the second round of minimum wage policy would lead to similar impact as the first round. This is because overall **corporate profitability** would continue to be strong with some compensation from further corporate income tax rate cut from 23 to 20 percent in 2013 onwards. Meanwhile, fragile firms continue to be in the same businesses that have been adversely affected since the first round. **Employment** is expected to be solid owing to tight labor market conditions and robust domestic economic outlook. Strong firms with labor shortage are expected to absorb layoffs. Moreover, most firms have already made necessary adjustments in advance. The impact on **inflation** is also expected to be minimal given that labor cost pass-through to prices would be difficult under current intense competition. However, a factor that would require monitoring in the periods ahead is the possibility of further wage increases in the seven pilot provinces to retain workers.

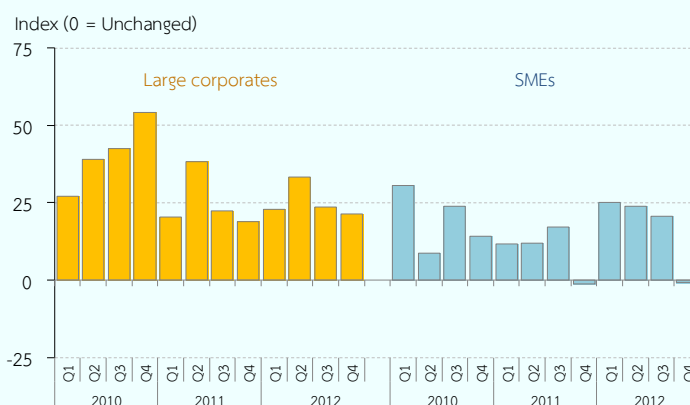
## Businesses' Adjustments in Response to Challenges

2012 was full of internal and external challenges for Thailand's corporate sector. At the beginning of the year, most businesses had to undertake reconstruction due to severe flooding in late 2011. Meanwhile, labor shortages were common and seemed to worsen. Labor costs also rose as a result of the minimum wage hike in April which signaled the end of cheap labor in Thailand. Worse still, the impact of global economic slowdown began to put more weight on Thailand's exports towards the end of Q2. All these challenges pressed businesses to adjust their operations continuously.

The Bank of Thailand's business survey<sup>1</sup> revealed that most firms were strong and generally flexible enough to make the necessary adjustments. Firms that were affected by the floods were able to resume production to reach normal capacity quickly to support growing domestic demand. To better handle risks, firms improved operational management in various areas including production, raw material preparation, stock management, distribution and insurance. Meanwhile, export firms enhanced their products' value added and expanded to untapped markets which partly helped offset subdued exports to major markets.

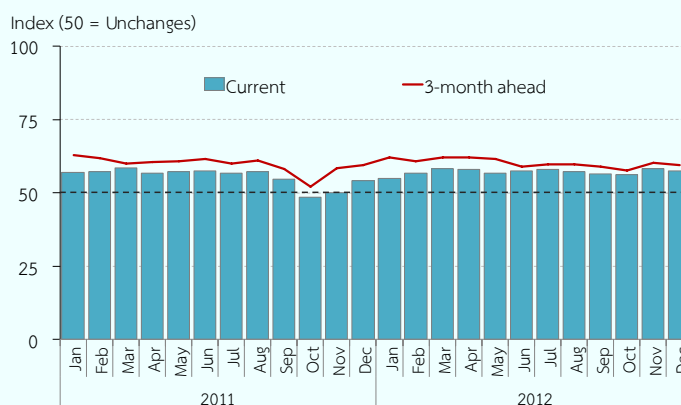
Overall, the corporate sector was in need of more labor input while most firms increased investment in machineries to solve the labor shortage problem and enhance productivity in response to higher wage costs. Production capacity was also expanded to serve growing domestic demand. These adjustments were reflective of results from the Business Sentiment Survey which indicated that most businesses expected the outlook to

Demand for Credits for Investment Purposes



Source : Bank of Thailand's Senior Loan Officer Survey

Business Sentiment on Investment



Source : Bank of Thailand's Business Sentiment Survey

<sup>1</sup> The BOT gathers business information from  
 (1) Business Liaison Program (BLP) where staffs meet with around 800 business managers per year  
 (2) Business Sentiment Survey of around 1,010 manufacturing and non-manufacturing firms with approximately 600 responses per month  
 (3) Quarterly Senior Loan Officer Survey from 48 financial institutions, including both banks and non-banks



improve and planned to increase investment in the periods ahead. Results from the Senior Loan Officer Survey further confirmed this observation as demand for credits for fixed investment of both large corporates and SMEs rose continuously from the beginning of the year.

Details of adjustments in main sectors included the followings.

**The hard disk drive and electronic parts industries** were severely affected by the flood in 2011. As a result, firms invested in flood prevention systems and diversified their production base to safer areas, especially in the Eastern and North-eastern provinces of the country. Many firms also used this opportunity to invest in new machineries to replace labor.

**The garment industry** was adversely affected by the global economic slowdown as orders from Europe and the U.S., Thailand's major markets, declined. The industry also faced more intense competition from countries with lower production costs. At the same time, the minimum wage increase severely affected the industry due to its labor intensiveness. As a result, some SMEs had to partially lay off workers and some eventually had to close down. However, exports of large corporates remained strong, and these firms began to increase investment in machineries to solve the labor shortage problem. Some firms even relocated to neighboring countries to take advantage of cheaper labor costs and the Generalized System of Preferences (GSP) privileges. Meanwhile, firms that continued to base production in Thailand improved production standards and used branding strategies to enhance products' value added. They also improved the production process to increase efficiency and lower costs by, for example, paying wage per output to motivate workers to increase productivity and improving sewing techniques to minimize wastes.

**The food processing industry** was also severely affected by the minimum wage increase due to its labor intensiveness. Thus, most firms increased investments in machineries to replace labor. Though the industry was able to maintain exports due to the necessary nature of such products, the highly competitive environment drove firms to improve products' value added and diversify to untapped markets. Examples of production improvement included switching from frozen food products to ready-to-eat products and changing recipes to suit new markets.

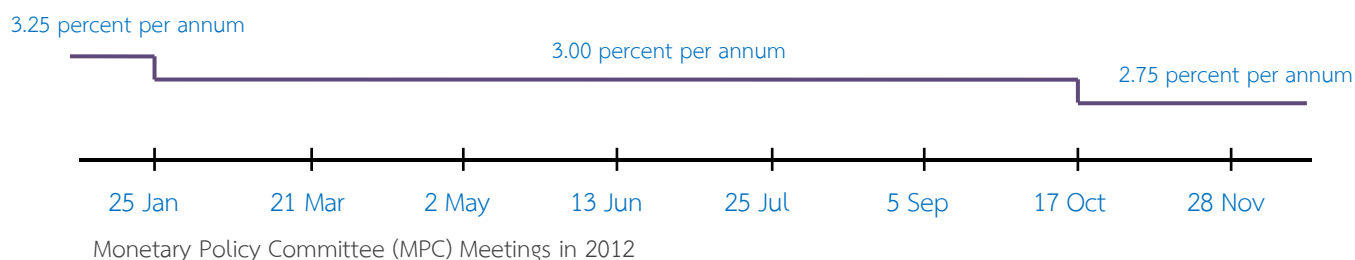
**The real estate industry** expanded well in all regions thanks to higher household income. However, the industry faced labor shortage problems, causing some firms to postpone ownership transfers and project launchings. As a result, firms began to use more prefabricated materials which allowed them to reduce construction time and minimize labor requirement.

**The trade and service industry** adjusted to higher labor costs by improving labor productivity. For example, the hotel industry allocated more duties to individual staffs and froze new employment. In trade, SMEs reduced costs by forming groups to order products in large quantities to reduce average costs and used different promotion strategies to achieve higher sales turnover. Meanwhile, large trading firms employed new technologies to improve efficiency and increased investment in machineries to replace labor. Moreover, large trading firms built new distribution centers to diversify risks, especially from natural disasters.

## 7. Important Policies and Measures

### Interest Rate Policy

#### Policy Interest Rate



Sources: BOT News No. 6/2012, 18/2012, 22/2012, 30/2012 38/2012, 47/2012, 52/2012 and 60/2012

○ At the first MPC meeting in 2012 on January 25, the protracted global economic problem was deemed to pose downside risks to the Thai economy which was already being hit by the impacts from severe floods at the end of 2011. Since risks to inflation remained subdued, the MPC decided to reduce the policy interest rate by 0.25 percent per annum to expedite economic recovery given the improving but still fragile private sector confidence.

○ The MPC kept the policy interest rate at the same level until the seventh meeting on October 17, 2012, where it decided to reduce the policy interest rate by another 0.25 percent per annum to cushion heightened risks from the global economy and maintain domestic demand momentum while inflationary pressure was assessed to be benign.

○ At the last meeting of the year on November 28, 2012, the MPC assessed that there was improvement in the global economic outlook given better-than-expected economic data for both the U.S. and China. Since the momentum of domestic spending remained strong, the MPC decided to hold the policy interest rate at 2.75 percent per annum.

## Money Market Measures

### 1. Transactions in Money Market

Measures	Main Points	Effective Date
Broadening the range of eligible collaterals for borrowings from the BOT	The range of eligible collaterals for borrowings from the BOT was broadened to include bonds issued by the Royal Thai government, state enterprises, and financial institutions, as well as foreign currencies and bills of exchange that meet BOT requirements. This measure aimed to provide effective and efficient liquidity assistance to financial institutions as well as safeguard overall financial stability.	2 March 2012

Source: BOT Circular No. FMD.(04) C. 2/2555

### 2. Foreign Exchange Control

Measures	Main Points	Effective Date
Capital Account Liberalization Master Plan	The Capital Account Liberalization Master Plan was formulated whereby BOT rules and regulations pertaining to investments in foreign debt instruments and derivatives were eased. This included: (1) allowing companies listed on the Stock Exchange of Thailand to directly invest in security and derivative products abroad, (2) allowing Thai residents to invest in foreign currency denominated bond issued and offered in Thailand from previously allowing only for those issued and offered abroad, and (3) allowing certain institutional investors to unwind foreign exchange hedging freely. The changes would (1) increase flexibility and investment choices to help diversify risks; (2) allow investors to manage risks more flexibly, in tandem with global market volatility; and (3) increase fund raising channels to facilitate economic integration of the region under the ASEAN Economic Community (AEC).	22 October 2012

Source: BOT News No. 54/2012

## Credit Measures

Measures	Main Points	Effective Date
1) Calculation of credit risk weights for commercial banks using the Internal Ratings-Based Approach (IRB)	Calculation of credit risk weights for commercial banks using the Internal Ratings-Based Approach (IRB) was modified in line with the new regulations on capital composition without changing the original concept of IRB. The recent global financial crisis demonstrated that there was greater connectivity between systemic risk and credit quality of financial institution compared to other types of debtors. Therefore, the BOT revised the formula for calculations of credit risk weights to better reflect the risk of such debtors.	1 January 2013
2) Calculation of counterparty credit risk weights for derivative transactions	Calculation of counterparty credit risk weights for derivative transactions was modified as follows. 1) Increased the minimum holding period in the calculation of haircut using the comprehensive method for certain over-the-counter derivative transactions, for example, derivative transactions with illiquid collateral. The change would better reflect actual behavior of commercial banks during a crisis where open positions could not be easily unwound. 2) Revised the calculation of Credit Equivalent Amount (CEA) for some derivative transactions, especially structured derivatives. The change would provide greater clarity given that the previous regulation did not stipulate calculation methods in detail, thus making implementation more practical.	1 January 2013
3) Calculation of credit risk weights for non-delivery versus payment (Non-DvP) transactions for commercial banks	Calculation of credit risk weights for non-payment and non-delivery transactions was modified in line with new regulations on capital composition to better reflect commercial banks' risk without changing the original overall concept.	1 January 2013

Sources: 1) BOT Notification No. FIPG. 16/2012

2) BOT Notification No. FIPG. 17/2012

3) BOT Notification No. FIPG. 18/2012

Note: Basel III: A global regulatory framework for more resilient banks and banking systems (Revised version: June 2011) was cited in formulating credit measures.



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