II. Macro environmental factors potentially affecting financial sector

2.1 International economic and financial conditions

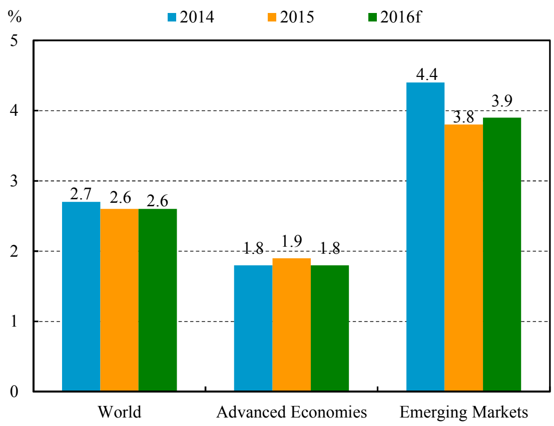
2.1.1 International economic conditions

Global economic growth softened and prospects remained uncertain

In 2015, global economic recovery was less sustained than expected. The International Monetary Fund (IMF) and IHS Global Insight both downgraded their forecasts for economic growth several times as economic performance across the world's major economies was uneven. The US economy grew steadily because of improved employment, strong domestic demand and increased disposable income. However, euro area growth remained weak even though Greece temporarily averted a default crisis. Meanwhile, despite sticking to an easier monetary policy stance, growth was worse than expected in Japan because of feeble consumption and stagnant wages. For the emerging economies, although they were still responsible for more than around 70% of global economic growth, the growth rate has decreased continuously over the last five years due to weaker domestic currencies, low commodity and oil prices, higher US interest rates and slowing Mainland China's growth, showing that their recovery momentum has waned.

From 2016 onwards, despite signs of an improving labor market, growth in the US may be weaker than expected owing to a strong dollar, which has caused a drop in exports. In the euro area and Japan, although they have continued applying monetary easing policies, growth momentum has still not gained traction. Among the emerging economies, Mainland China is undergoing structural reforms, which have further lowered its growth and could affect other emerging economies. Furthermore, Brazil is

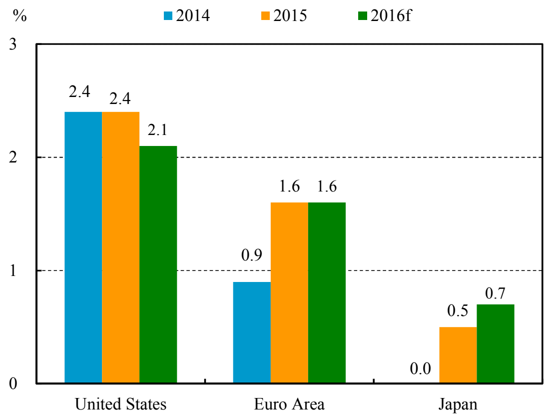
Chart 2.1 Global economic growth rates



Note: Figures for 2016 are IHS Global Insight estimates.
Source: IHS Global Insight (2016/4/15).

confronting a serious fiscal crisis. In sum, economic growth in emerging economies appears less favorable than anticipated. IHS Global Insight predicts[10] world real GDP growth to be 2.6% in 2016, the same figure as in 2015. Real GDP in advanced economies is projected to slightly decrease to 1.8%. The average growth rate in emerging economies is forecast to increase modestly to 3.9% (Chart 2.1).

Chart 2.2 Economic growth rates in US, Euro area and Japan

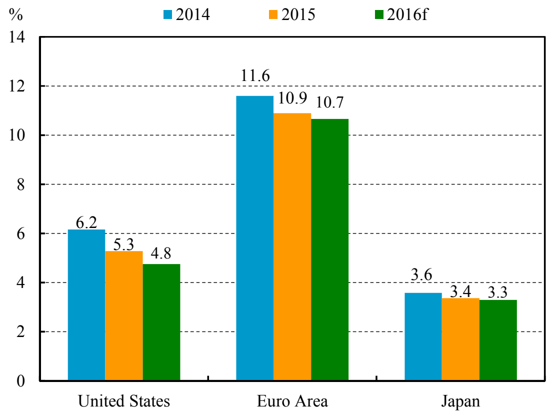


Note: Figures for 2016 are IHS Global Insight estimates.
Sources: Official websites of the selected economies and IHS Global Insight (2016/4/15).

Advanced economies took divergent growth paths

The US economy grew steadily, its labor and housing markets improved continuously

Chart 2.3 Unemployment rates in US, Euro area and Japan



Note: Figures for 2016 are IHS Global Insight estimates.
Sources: Official websites of the selected economies and IHS Global Insight (2016/4/15).

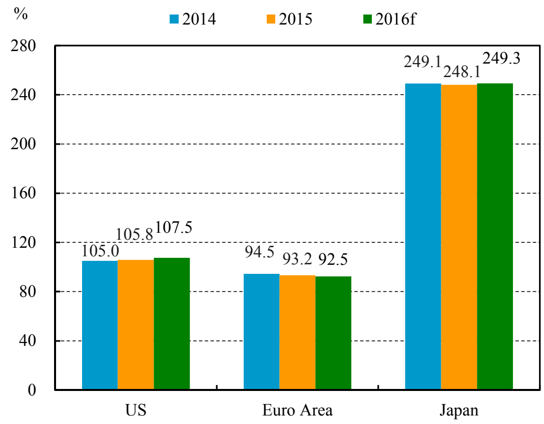
In 2015 Q1, the growth rate in the US was below expectations owing to abnormal weather conditions and a strong dollar. Recovery gained momentum later because of the increase in private consumption when the severe effect of weather conditions faded, along with improvements in employment, consumer expenditure and the property market. The annual economic growth rate was 2.4%, the same as in 2014. Although the Fed raised interest rates in December 2015, showing its confidence in the recovery in the job market and the economy, IHS Global Insight predicts US economic growth to slow to 2.1% in 2016 because of the cloudy prospects of investments in the energy sector and exports (Chart 2.2).

The labor market in the US kept improving in 2015 with the unemployment rate dropping to an eight-year low of 5.3% from 6.2% in 2014. Robust gains in employment increased private consumption, which supported economic growth. Since the labor market outlook remained

[10] See Note 1.

bright, IHS Global Insight anticipates the unemployment rate will fall to an annual rate of 4.8% in 2016 (Chart 2.3).

Chart 2.4 Government debt-to-GDP ratios in US, Euro area and Japan



Note: Figures for 2016 are IMF projections.
Source: IMF (2016), *Fiscal Monitor*, April.

In fiscal year 2015, the pickup in wage growth boosted individual income taxes, reducing the US deficit to US$438.9 billion. Although the fiscal condition stayed positive, the IMF forecasts the US government debt burden to worsen further because of higher borrowing costs after the lifting of the interest rate as well as increasing medical and social expenditures. The ratio of outstanding government debt relative to annual GDP will continue elevating to an estimated 107.5%[11] in 2016 (Chart 2.4).

The euro area economy has gradually gained momentum

Thanks to the ECB's expansion of QE, and the diminishing of the threat of Greece exiting the euro area (Grexit), resulting from Greece's debt crisis, the economic growth rate in the euro area rose to 1.6% in 2015. Nonetheless, the high unemployment rate of 10.9% and soft oil prices challenged efforts to achieve their inflation target. In 2016, despite the prolonged refugee problem and the UK's possible withdrawal from the European Union, IHS Global Insight expects the euro area economic growth rate to stay at the same level of 1.6%, and the unemployment rate to decrease further to 10.7%, owing to the ECB's expansion of monetary easing measures and negative interest rate policy (NIRP) (Chart 2.2, 2.3).

Regarding government finance, the euro area countries made an effort to shrink their fiscal deficits, causing the fiscal deficit to GDP ratio to drop to an eight-year low of 2% in 2015. Moreover, the outstanding government debt-to-GDP ratio continued declining to 93.2%. As economic activity in the euro area gradually gains momentum, the IMF forecasts the ratio to fall slightly to 92.5% in 2016 (Chart 2.4).

[11] IMF (2016), *Fiscal Monitor*, April.

Economic growth in Japan was lower than expected, the inflation target hard-to-achieve, leading to the BoJ introducing an NIRP

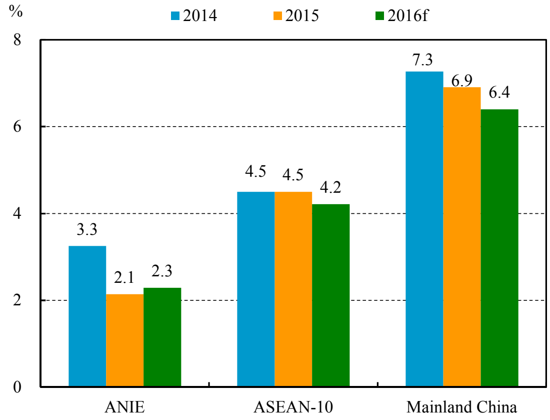
In 2015 Q1, Japanese economic growth increased steadily as exports accelerated. However, the global economy remained sluggish and the effect of Japan's monetary stimulus was below expectations, leading to a mere 0.5% annual growth rate. In order to revive economic growth and achieve the targeted 2% inflation rate, the BoJ adopted an NIRP for the first time in February 2016, introducing a rate of -0.1% on the incremental increase in financial institutions' excess reserves. Additionally, the Japanese government announced that the corporate tax rate would be cut to 29.97%, effective from April 2016, as well as postponing the second sales tax hike until 2017, to underpin corporate profitability and investment. IHS Global Insight estimates Japanese economic growth to increase slightly to 0.7% in 2016, and the unemployment rate to decrease marginally to 3.3% (Chart 2.2, 2.3), while the IMF predicts the outstanding government debt-to-GDP ratio to increase to 249.3% in 2016 because of ballooning social welfare costs of a fast-aging population (Chart 2.4).

Economic growth of Asian emerging economies slowed down

In 2015, Mainland China's economic slowdown resulted in lower commodity imports, leading to a significant decline in economic growth of Asian emerging economies. GDP growth in most Asian newly industrialized economies (ANIEs) experienced substantial downturns. With regard to the sharp drop in global trade, economic growth in export-oriented ANIEs contracted from 3.2% in 2014 to 2.1%. Among member countries in the Association of South East Asian Nations (ASEAN-10), the economic growth rate in Indonesia decreased owing to weak export performance and plunging international commodity prices. In contrast, Thailand benefited from a relatively stable political environment, and economic activity in Vietnam, buoyed by the expanding manufacturing sector and low wages, sustained its upward trajectory. As a result, the overall growth rate of the ASEAN-10 was 4.5%, the same as in 2014. In Mainland China, structural reforms, excess manufacturing capacity, weakening property markets and soft global demand lowered economic growth further to 6.9% in 2015, the lowest level in 25 years.

IHS Global Insight anticipates that the economic growth rate in the ANIEs will improve moderately to 2.3% in 2016, while the growth rate in the ASEAN-10 countries, affected by declining economic growth in Mainland China and low commodity prices, will fall to 4.2%. Meanwhile, the continued digestion of excess capacity in the industrial sector, a glut of housing inventory, and a government debt bubble will further pressure Mainland China's economy, lowering the annual growth rate to 6.4% in 2016 (Chart 2.5). In addition, the unemployment rate in the ANIEs and the ASEAN-10 is expected to decline slightly to 3.4% and 4.3%. In contrast, the unemployment rate in Mainland China is projected to rise slightly to 4.2% from 4.1% in 2015 (Chart 2.6).

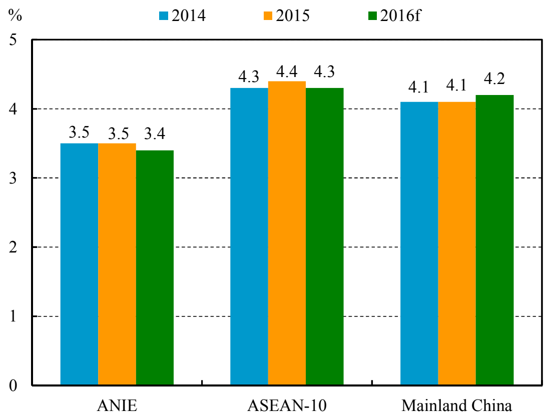
Chart 2.5 Economic growth rates in Asian emerging economies



Notes: 1. Figures for 2016 are IHS Global Insight projections.
2. ANIE refers to Asian Newly Industrialized Economies, including Taiwan, Hong Kong, Singapore and South Korea.
3. ASEAN-10 refers to the 10 member countries of the Association of South East Asian Nations, including Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand and Vietnam.

Sources: Official websites of the selected economies and IHS Global Insight (2016/4/15).

Chart 2.6 Unemployment rates in Asian emerging economies



Notes: 1. Figures for 2016 are IHS Global Insight projections.
2. For ANIE and ASEAN-10, see Notes 2 & 3 in Chart 2.5.

Sources: Official websites of the selected economies and IHS Global Insight (2016/4/15).

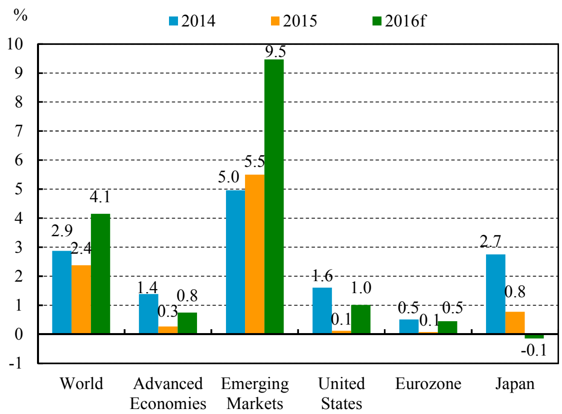
Global inflation remained subdued

In 2015, the price of crude oil fell substantially as emerging economies, such as Mainland China, underwent sluggish growth, resulting in a sharp deceleration in oil demand growth. Moreover, the technique for mining oil shale made progress in the US, allowing production to reach a historically high level, and the US government abolished 40-year-old constraints on crude oil exports, further pressuring oil prices.[12] In the meantime, the international price of cereal continued its downward trend in 2015 as a result of slowing global export demand, excess food supply and the strengthening of the US dollar. Prices of vegetable oil, dairy and meat also fell. Since commodity and oil prices plunged dramatically, the oil-exporting nations (such as Saudi Arabia, Venezuela and Russia, etc.) experienced fiscal difficulties and economic slowdown. In addition, low commodity and oil prices led inflation to drop well below the targets of many developed nations (such as the US and Japan, etc.) and affected their monetary policies. Under the influence of low oil and food prices, the global headline inflation rate declined from the 2.9% registered in 2014

[12] Brent crude oil plunged from a high of US$110.95 per barrel in June 2014 to a low of US$36.43 at the end of 2015.

to 2.4%. Headline inflation rates in advanced economies also fell markedly from 1.4% to 0.3%, and core inflation rates remained at 1.6%, which were lower than their targets.[13] Still, headline inflation rates increased from 5% to 5.5% in emerging economies as Brazil experienced its crisis of mounting deficits and high inflation (Chart 2.7).

Chart 2.7 Global headline inflation indices



Note: Figures for 2016 are IHS Global Insight estimates.
Sources: Official websites of the selected economies and IHS Global Insight (2016/4/15).

From 2016 onwards, the members of the Organization of the Petroleum Exporting Countries (OPEC) eventually failed to reach an agreement to freeze output. However, global prices of crude oil fluctuated with an upward trend on account of a slump in the US oil rig count and geopolitical conflicts in Iraq and Nigeria. With regard to international cereals, since projected global supply is sufficient and world stocks are higher than the figures registered last year, cereal prices are expected to drop steadily. IHS Global Insight predicts that the headline inflation rate in advanced economies will merely increase to 0.8% and the global headline inflation rate will rise to 4.1%[14] (Chart 2.7).

The US started raising interest rates, while most economies continued to adopt easy monetary policy stances

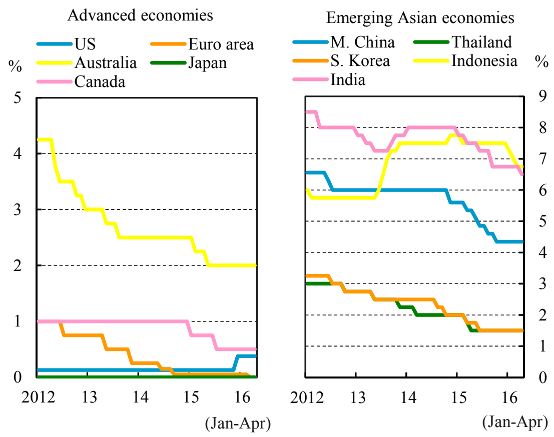
In 2015, advanced economies adopted divergent monetary policies. In December 2015, the Fed raised its target band for the federal funds rate by 25 basis points, to 0.25-0.5%, since US economic activity and labor market indicators continued to strengthen. Nonetheless, the Fed did not hike the rate further in March 2016 as it flagged risks from global financial and economic developments. Meanwhile, although the euro area economy has recovered mildly, most indicators of inflation remained muted. Therefore, the ECB announced an expanded asset purchase program in January 2015. In December of the same year, the ECB pledged to extend easing and lowered its overnight deposit rate. In March 2016, the ECB cut the rate further. Likewise, apart from implementing a quantitative easing policy, Japan cut interest rates into negative territory in February 2016 to stimulate the economy. Canada and Australia also lowered policy rates to boost economic growth. As for emerging Asian economies, to

[13] IMF (2016), *World Economic Outlook*, April.
[14] See Note 2.

mitigate the impact of weak global demand on their domestic economies, most of them kept easing monetary policies. Among these countries, Mainland China has cut the reserve requirement ratio as well as the interest rate on deposits and loans several times (Chart 2.8).

From 2015 onwards, the US hiked interest rates, while the euro area, Japan and Mainland China continued adopting accommodative monetary policies. The divergence of monetary policies could trigger a surge in both global financial market disruption and international capital flow volatility. In addition, the divergence could pressure the debt servicing ability of those emerging economies, affecting global financial stability. Furthermore, as quantitative easing in Japan and the euro area has gradually become less effective, the BOJ and ECB anticipated boosting economic growth and inflation expectations by introducing NIRPs. However, unexpected effects of the NIRPs, coupled with market concerns about adverse impacts caused by the NIRPs, have increased global financial market uncertainty and risks.

Chart 2.8 Policy rates in selected economies



Notes: 1. Advanced economies: figure for the US is based on the target federal funds rate; for the euro area, the main refinancing operations fixed rate; for Australia, cash rate target; for Japan, uncollateralized overnight call rate; for Canada, the target for the overnight rate.
2. Emerging Asia: figure for Mainland China is based on financial institution one-year lending base rate; for Thailand, 1-day repurchase rate; for South Korea, base rate; for Indonesia, Bank Indonesia rate; for India, repurchase rate.
3. Figures are as of 15 April 2016.

Sources: Central banks' websites.

2.1.2 International financial conditions

Global financial stability risks elevated

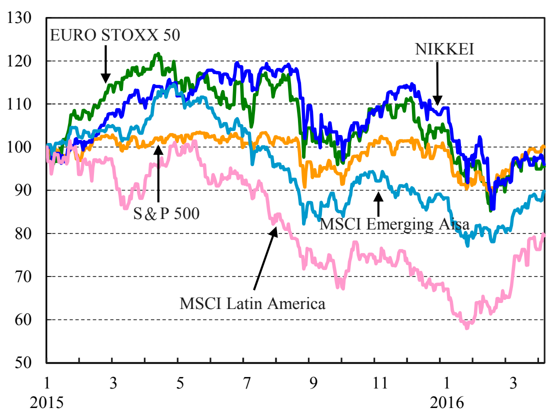
In the first half of 2015, global financial stability broadly improved as economic conditions recovered across advanced economies. However, from the second half of 2015 onwards, uncertainties concerning the global economic outlook and Mainland China's economic transition rose. These, coupled with a fall in crude oil and commodity prices as well as a drop of investor confidence regarding government policy actions, triggered turmoil in global financial markets and elevated financial stability risks.

Financial risks in some advanced economies have yet to fully recede

In recent years, the capital and liquidity levels of the banking industry have risen as advanced economies launched several financial regulatory reforms. However, the NPL ratios of banks in numerous economies ascended dramatically during the global financial crisis and are yet to recede fully. Moreover, sluggish adjustment of banks' business models[15] has continuously affected banks' profitability and loss-bearing capacity. Among different countries, US banks recovered at a faster pace and their exposure to emerging markets and the energy industry remained low. In addition, the overall risk of US banks was manageable on account of their high profitability and low NPL ratios. On the other hand, European banks failed to reduce non-performing assets generated during the financial crisis; at the same time, business model transformation as well as a large amount of litigation compensation affected their profitability and capability to raise capital. Furthermore, many European banks failed to increase their capital levels to meet new regulatory requirements and they remained at challenging levels. In the meantime, in response to declining domestic bond yields, Japanese banks reduced their holdings of yen bonds at the same times as increasing their foreign investments to improve investment returns. Nevertheless, such operations, along with a rising concern that NIRPs would further affect banks' profits, increased credit risks and led to tumbling stock prices.

In 2015, the stock and foreign exchange markets in advanced economies fluctuated dramatically. Among them, stock markets in advanced economies trended upward in the first half of 2015 thanks to economic recovery. The stock indices of Japan and the euro area particularly outperformed others. In the third quarter, stock prices in the US, the euro area and Japan tumbled simultaneously owing to unfavorable market sentiment such as slowing economic growth in Mainland China and rising expectation of a Fed interest rate hike. Although stock prices slightly rebounded in the fourth quarter, the volatility in stock markets amplified again in the first quarter of

Chart 2.9 Performance of key international equity indices



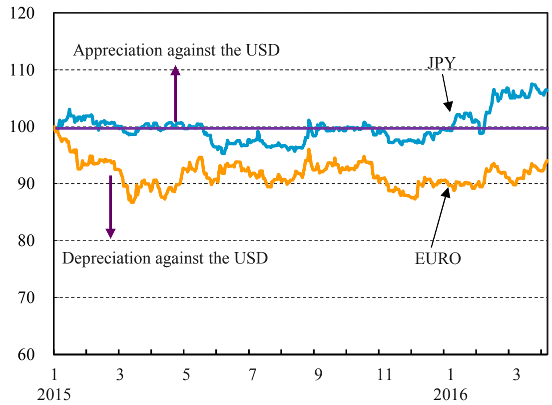
Notes: 1. 1 January 2015 = 100.
2. The Euro STOXX 50 refers to a stock index of the euro area consisting of the largest 50 stocks in the 12 major economies.

Source: Bloomberg.

15 Before the global financial crisis, the banking industry undertook securitization and various innovations through complex, high-risk financial derivatives operations to earn high profits. After the crisis, regulations turned stricter and imposed restrictions on the scope and type of bank businesses. For example, the Volcker Rule in the US prohibited commercial banks from engaging in proprietary trading and the ring-fencing rule in the UK was designed to separate retail banks from wholesale banks.

2016 (Chart 2.9). With regard to foreign exchange markets, expectations of a Fed interest rate hike led to a stronger US dollar, while the euro depreciated against the US dollar owing to quantitative easing and the NIRP of the ECB. The Japanese yen against the US dollar continuously stayed at a low level in the face of qualitative and quantitative monetary easing policies by the BOJ. The Japanese yen temporarily depreciated against the US dollar as the BOJ announced its NIRP in January 2016; afterwards, the Japanese yen appreciated markedly because of massive hedging capital inflows caused by international financial market fluctuations (Chart 2.10).

Chart 2.10 Movements of various currencies against the US dollar



Note: 1 January 2015 = 100.
Source: Bloomberg.

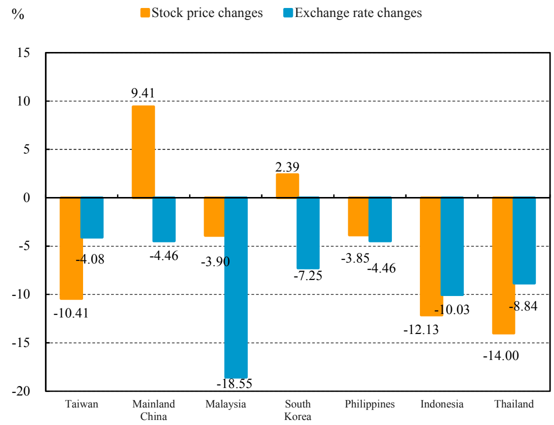
Financial risks in some emerging markets mounted

Financial systems in emerging economies faced challenges owing to several adverse impacts such as a slack global economy, the plunging prices of crude oil and raw materials, as well as substantial adjustment of assets prices. In recent years, the measures of financial leverage for corporate sectors in many emerging economies surged owing to over-indebtedness. The weakening profitability and debt servicing ability, caused by a slowdown in economic growth, had an adverse impact on their refinancing ability. Added to this, the strengthening US dollar lifted dollar-denominated debt burdens of such corporates and pushed up the default risks. In addition, oil-producing and raw material-exporting countries, such as Russia, Brazil and Venezuela, faced high fiscal deficits and foreign debt triggered by tumbling oil and raw material prices. The default risks of energy corporates in those countries ascended as well. Although banking industries in most emerging economies remained profitable and adequately capitalized, rapid credit growth and increasing borrower default may cast a shadow over credit markets, as well as eroding banks' profits and capital levels.

In the first half of 2015, benefiting from QE policies in the euro area and Japan, stock prices of Asian emerging economies trended upward. Nevertheless, in the second half of 2015, the economic slowdown in Mainland China jeopardized exports. This, coupled with capital outflows driven by market expectations of rising interest rates in the US, led to a drop in most Asian stock markets. In 2015, Asian emerging economies' currencies mostly depreciated.

Among them, the Malaysian ringgit against US dollar depreciated considerably, registering a decline of 18.55% as falling international crude oil prices adversely affected its exports (Chart 2.11).

Chart 2.11 Changes in equity indices and exchange rates among Asian emerging economies



Notes: 1. The comparison is based on the difference between the figures at end-2014 and end-2015.
2. Taiwan uses TWSE Weighted Index; Mainland China uses SSE Composite Index; Malaysia uses Kuala Lumpur Composite Index; South Korea uses KOSPI Index; Philippines uses PSEI Index; Indonesia uses Jakarta Composite Index; Thailand uses SET Index.
Sources: Datastream and Bloomberg.

The IMF indicated that rising downside risks of the global economy posed several challenges for emerging economies,[16] including: (1) the increasing debt burden and default risks of big companies in Mainland China and other emerging economies[17] may have negative spillover effects on other economies and thus adversely affect the global financial system; (2) the default rate on foreign currency-denominated corporate debts ascended because of currency depreciation, and corporate cash flow deteriorated, affected by declining raw material prices; (3) some banks' balance sheets have yet to reflect late-cycle asset quality deterioration and NPL ratios in some economies' banking sectors are set to rise as corporate earnings and asset quality deteriorate; (4) rapid credit growth underlies a significant increase in banks' loan-to-deposit ratios and funding positions in some economies' banking sectors are now approaching statutory ceilings, which could potentially become a further constraint on banks' ability to underwrite credit.

International organizations called on national authorities to take measures to promote global financial stability

According to the IMF's assessment,[18] further bouts of market turmoil or disorderly balance sheet deleveraging could erode global economic output by 3.9% compared to baseline level without proper policy frameworks. In order to lessen the risks from global financial instability, international organizations such as the IMF[19] and the OECD[20] provided the policy

[16] IMF (2015), *Global Financial Stability Report*, October; IMF (2016), *Global Financial Stability Report*, April.
[17] According to the IMF's estimation, loans potentially at risk in Mainland China's corporate sector reached US$1.3 trillion, or 15.5% of total commercial bank loans. Considering estimates of bank loans potentially at risk and assuming a 60 percent loss ratio suggests that potential bank losses on these loans could amount to US$756 billion, or 7% of GDP. Alternatively, assuming a lower loss ratio of 45 percent yields potential bank losses of US$567 billion, or 5% of GDP. See IMF (2016), *Global Financial Stability Report*, April.
[18] IMF (2016), Global Financial Stability Report, April.
[19] See Note 16.
[20] OECD (2015), *Economic Outlook*, NO. 98 November.

suggestions as follows:

- With the divergence in the monetary policies of advanced economies, national authorities should make concerted policy efforts to reduce the possibility that episodes of financial market volatility could disrupt the current economic expansion. In addition, national authorities should reevaluate trading restrictions on derivatives to address problems when liquidity is tightening.
- In the euro area, the authority should strengthen bank supervision and reform the insolvency framework. Injections of public money to recapitalize banks or an orderly wind-down of insolvent institutions is needed when necessary to speed up the recognition of bank losses and lower NPLs.
- Emerging economies should enhance supervision on banks' credit risks, including higher capital requirements for foreign currency exposures as well as caps on the share of such exposures. Furthermore, structural reforms are also required, such as relaxing regulations and raising the proportion of foreign direct investment to replace volatile short-term capital by providing tax incentives.
- Emerging and developing economies should adopt flexible foreign exchange policies to abate the impacts arising from deteriorating terms of trade. Implementation of expansionary fiscal policies is another measure to respond to negative impacts if necessary.
- The corporate sector in Mainland China should be appropriately deleveraged to smooth credit channels. Supervisory authorities should promote interest rate liberalization, reinforce market discipline, increase banks' loss-absorbing buffers and strengthen regulations to avoid the risk of excessive competition.

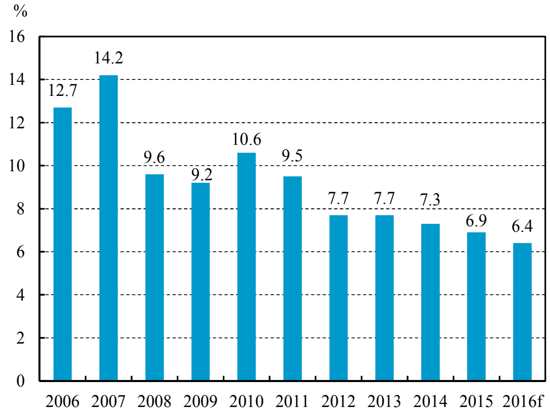
2.1.3 Mainland China's economic and financial conditions

Economic growth momentum continuously waned

In 2015, under increasing pressure stemming from the slow pace of the global economic recovery, excess capacity, and mounting local government debts, Mainland China's economic growth rate fell to 6.9% from 7.3% in 2014, lower than its official growth target of 7% and the lowest level of GDP growth recorded since 1990 (Chart 2.12).

Taking a glance into 2016, in an effort to promote supply-side structural reforms,[21] Mainland China's National People's Congress (NPC) and Chinese People's Political Consultative Conference (CPPCC) in March targeted an economic growth rate of 6.5% to 7% for 2016, the first time that the goal was reported as a range rather than a specific number, giving greater flexibility in policy making. However, IHS Global Insight projects the economic growth rate to continue falling to 6.4% in 2016 on account of weakening property markets and excess capacity in manufacturing (Chart 2.12).

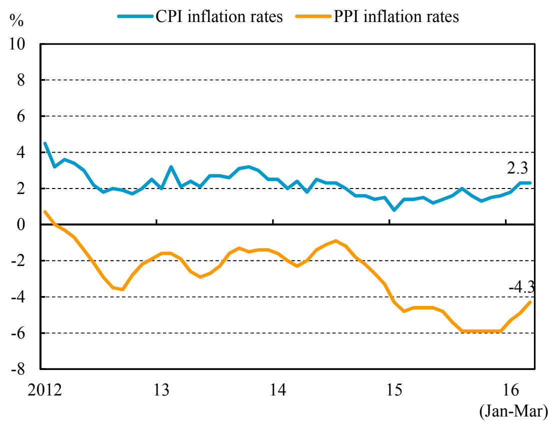
Chart 2.12 Economic growth rates of Mainland China



Note: Figure for 2016 is an IHS Global Insight projection.
Sources: National Bureau of Statistics of China and IHS Global Insight (2016/4/15).

Prices remained stable and housing prices turned to increase

Chart 2.13 Inflation rates of Mainland China



Source: National Bureau of Statistics of China.

Owing to sluggish domestic demand and falling international oil prices, the CPI inflation rate of Mainland China was 1.4% in 2015, lower than the official goal of 3.0%. In the beginning of 2016, affected by cold weather and the seasonal factor of the Lunar New Year holidays, food prices surged and the CPI inflation rate rebounded to 2.3% in March. IHS Global Insight projects the annual CPI inflation rate of 2016 to increase to 2.3%. In contrast, the producer price index (PPI) inflation rate registered -5.2% in 2015 owing to industrial overcapacity and falling raw material prices. Moreover, the PPI inflation rate contracted to -4.3% in March 2016 (Chart 2.13).

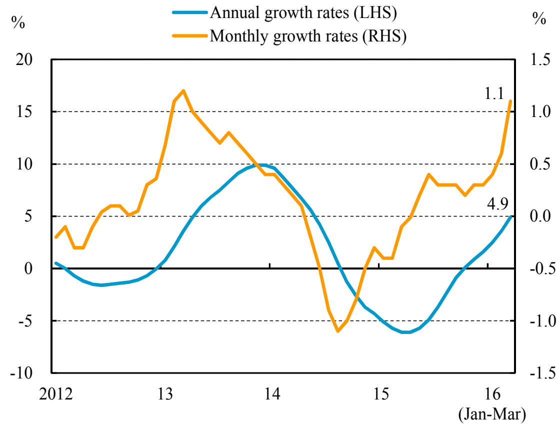
The annual growth rate of housing sales prices in 70 medium-large cities continued to decline in 2015 Q1. However, owing to a series of deregulation measures[22] in the housing market

[21] The term "supply-side structural reforms" aims at readjusting the economic structure to optimize the allocation of supply-side elements, thus improving economic growth.

[22] The measures include cutting the down payment ratio for second house buyers and shortening the owning period to exempt sellers from business taxes when individuals sell an ordinary house in March 2015, and cutting the down payment ratio for first house buyers from 30% to 25% in September.

from May, housing prices turned to rise after declining, and the annual growth rate reached a yearly high of 1.6% at the end of the year (Chart 2.14). Furthermore, in early 2016, massive cash inflows into the housing market led to a marked rise in the first- and specific second-tier cities' housing prices while the third- and fourth-tier cities faced the challenge of stock clearance. Therefore, the divergence in the property market has induced two separate sets of housing policies from Mainland China's government, including strengthening supervision on first- and second-tier cities to stabilize housing prices as well as continually implementing easing monetary policies with respect to third- and fourth-tier cities in an effort to accelerate destocking.

Chart 2.14 Average growth rates of building sales prices in 70 medium-large cities of Mainland China



Source: Thomson Reuters.

The PBC continued to implement an easing monetary policy to maintain balance between stabilizing growth and restructuring the economy

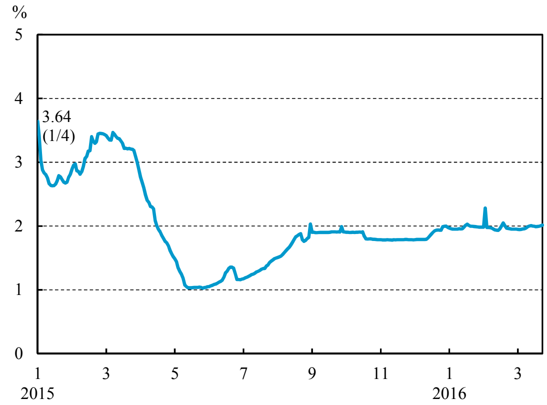
In an effort to reduce financing costs with the aim of sustaining economic growth, the People's Bank of China (PBC) continued to take a series of monetary easing measures in 2015, such as successively cutting the reserve requirement rate (RRR) for targeted agricultural and micro enterprises. Subsequently, the PBC took alternative targeted monetary easing measures that injected funds into markets through different policy tools, including cutting repurchase rates several times, and launching the medium-term lending facility (MLF), pledged supplementary lending (PSL) and short-term liquidity operations (SLOs). Besides these, the PBC lowered the benchmark deposit and lending rates to 1.5% and 4.35%, respectively, which was the fifth interest rate cut since July 2012. Furthermore, the PBC removed the deposit interest rate ceiling in October 2015 to achieve its interest rate liberalization target.[23]

Later, owing to the slowdown in economic growth and massive capital outflows from Mainland China, the PBC cut the RRRs for all banks by 50bps in March 2016 to maintain

[23] The PBC expanded the ceiling on deposit interest rates from 1.2 times the benchmark rate to 1.3 and 1.5 times, respectively, in March and May 2015. In August, the PBC removed the ceiling on long-term (excluding within one year) banks' certificate of deposit interest rates. In October, the PBC removed the ceiling on all banks' deposit interest rates.

ample liquidity in the financial system. In the face of easy monetary policy, the Shanghai Interbank Offered Rate (SHIBOR) fluctuated mildly except for a temporary rise during the Chinese New Year holidays because of seasonal demand (Chart 2.15).

Chart 2.15 Shanghai Interbank Offered Rates



Source: China Foreign Exchange Trading System & National Interbank Funding Center.

The stock and foreign exchange markets sharply fluctuated

In early 2015, thanks to interest rate and RRR cuts by the PBC, the One Belt One Road and MSCI inclusion of Mainland China's shares, the Shanghai stock exchange composite (SSE) index sharply rose and registered 5,166 in mid-June, increasing by 60% from the end of 2014 (Chart 2.16). However, detachment from fundamentals, strengthened deleveraging by the government and negative international factors all led to a panic sell-off and dramatic fall in the market. Afterwards, the SSE composite index gradually stabilized in Q4, and reached 3,539 at the end of December, with an annual rise of 9.4%. In the beginning of 2016, a circuit breaker mechanism was triggered resulting in a panic sell-off again and the SSE composite index plummeted to 2,655. At the end of March, the SSE composite index slightly rebounded to 3,004.

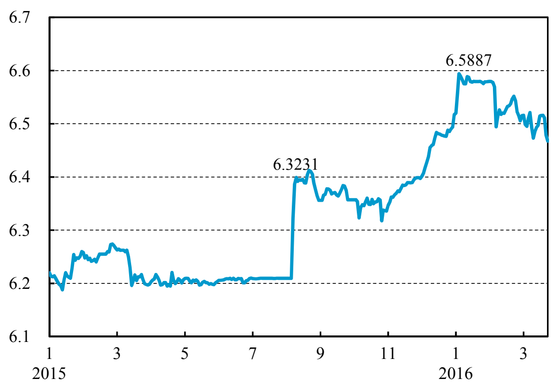
Chart 2.16 Shanghai stock exchange composite index

Source: Bloomberg.

Regarding the foreign exchange market, the renminbi exchange rate turned to stabilize after depreciating against the US dollar in 2015 Q1. However, the renminbi sharply dropped to 6.3231, driven by the implementation of reform of the mid-price of the renminbi against the US dollar on 11 August. Later, the IMF included the renminbi into the special drawing right (SDR) currency basket in November. Therefore, market participants expected that the momentum of stabilization of the renminbi exchange rate by the PBC would decline and that depreciation of the renminbi would follow. At the end of December, the renminbi exchange rate stood at 6.4936 against the US dollar, an annual depreciation of 4.5%. In the beginning of 2016, the renminbi exchange rate has rapidly depreciated through the combined effect of capital outflows and expected depreciation of the renminbi. Afterwards, the PBC intervened to greatly drive up the Hong Kong Interbank Offered Rate (HIBOR) to boost the cost of shorting the renminbi offshore, resulting in the stabilization of the renminbi (Chart 2.17).

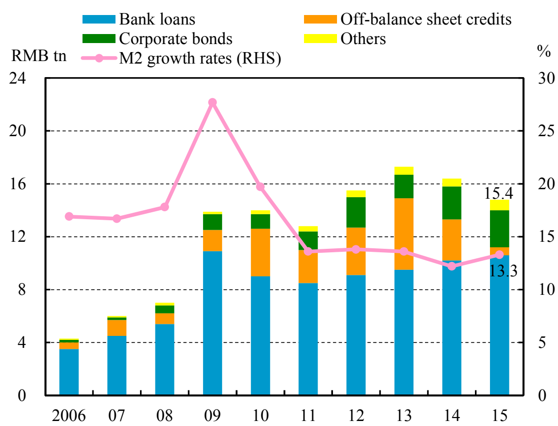
Furthermore, Mainland China's government gradually opened the capital account and took a series of measures for the onshore foreign exchange market from 2015 onwards to promote the internationalization of the renminbi, including: (1) implementing reform of the mid-price of the renminbi against the US dollar; (2) opening its interbank foreign exchange market to foreign central banks and similar institutions; (3) allowing qualified foreign institutional investors to participate in the foreign exchange market; (4) publishing the renminbi exchange rate composite index provided by the China Foreign Exchange Trade System (CFETS). As a result, the effects of these measures on Mainland China's economy and the global financial market should be cautiously monitored in the future.

Chart 2.17 RMB/USD exchange rate



Source: CBC.

Chart 2.18 Aggregate financing to the real economy and annual growth rates of M2 in Mainland China



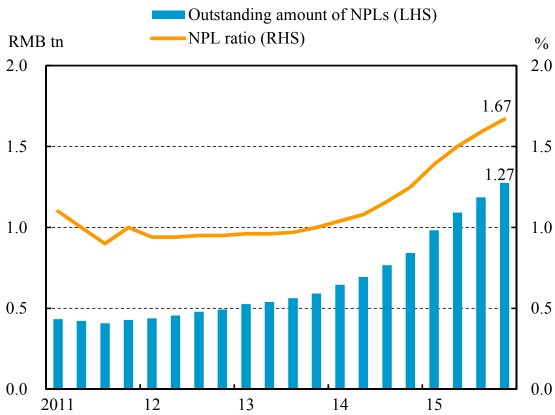
Source: PBC.

The increment in aggregate financing to the real economy slightly decreased, but NPL ratios of banks continually trended up

With a view to the PBC's reinforcement of the financial sector to support the real economy, the annual growth rate of broad money supply M2 increased to 13.3% at the end of 2015, higher than the official annual target of 12%. Meanwhile, aggregate financing to the real economy rose by RMB15.4 trillion at the end of 2015; however, the annual growth rate decreased to 12.4% from 14.3% a year earlier, mainly resulting from a decline in off-balance sheet financing as Mainland China strengthened financial institution deleveraging and supervision on shadow banking (Chart 2.18).

Despite a sustained rise in bank loans in the most recent four years, the NPL ratio edged up to 1.67% at the end of 2015 from the 1.25% recorded a year earlier as a result of moderate economic growth (Chart 2.19). Because Mainland China's government continually cut excessive industrial capacity and cleaned up indebted corporates, the NPL ratio may continue to increase.

Chart 2.19 NPL ratios of Mainland China's commercial banks



Source: China Banking Regulatory Commission.

With local government debts coming due, various measures were successively launched

On account of local governments facing enormous debts due from 2015 onwards,[24] alongside increasing pressure to service their debts owing to ongoing economic slowdown and address the sources of financial stability pressure, Mainland China's government consented to launch a RMB3.2 trillion local government debt-swap program so as to enable local governments to tackle their debt due problems. Furthermore, the State Council determined to raise the limit the National Social Security Fund is allowed to invest in local government bonds and adopted a local government debt ceiling in order to reduce default risk of local government debts.

2.2 Domestic economic conditions

In 2015, because of a substantial decline in exports and sluggish momentum in investment, the domestic economy grew slowly along with stable inflation. Short-term external debt servicing ability remained strong on the back of a sustained surplus in the balance of payments and ample foreign exchange reserves. Meanwhile, the scale of external debt shrank and external debt servicing capacity improved. Although the government's fiscal deficits fell, the total government debt level slightly mounted; furthermore, the government kept implementing the *Fiscal Health Plan* to enhance a sound fiscal system.

[24] The National Audit Office of the People's Republic of China published the audit findings of public debts at all levels of government in December 2013. Based on the report, about RMB2.78 trillion of the total local government debts fell due in 2015, and about RMB1.52 trillion will fall due in 2016.

2.2.1 Exports declined sharply and domestic economic growth slowed

As a result of the continuous slump in international crude oil prices, global demand moderation and increasing threat from industrial supply chain localization in Mainland China, Taiwan's exports to major markets all declined in 2015, with an annual decrease of 10.90%, reaching the lowest level since 2009. Moreover, other major exporting countries in Asia also faced the same challenges.[25]

Chart 2.20 Exports and growth rates of exports to Mainland China

Source: MOF.

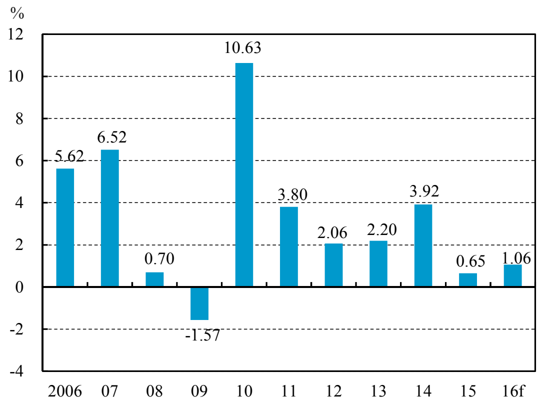
Because Taiwan's exports are highly concentrated on Mainland China's market, and greatly affected by the industrial supply chain localization and their slowdown in economic growth, the growth rate of exports to Mainland China (including Hong Kong) sharply shrank to -12.44% in 2015 (Chart 2.20). Broken down by industry, exports of optical instruments registered the greatest decline in both amount and growth rate. In the short run, the emergence of the industrial supply chain in Mainland China will directly influence exports of intermediate goods from Taiwan. Meanwhile, the gradual completion of Mainland China's supply chain and the *Go Global* strategy promoted by Mainland China's government will jeopardize the importance of the role played by Taiwan's industries in the international specialization over the longer run.

The slump in exports, uncertainty over market prospects and a shortage of domestic investment led the economic growth rate to significantly decline in Q2 2015. Moreover, growth rates dropped to -0.80% in Q3 and -0.89% in Q4. Overall, the annual economic growth rate stood at only 0.65% in 2015, much lower than the 3.92% of the previous year (Chart 2.21).

[25] Affected by global business cyclical factors, the annual export growth rates in major Asian countries dropped substantially, e.g., Singapore (-19.8%), Hong Kong (-15.3%), Malaysia (-14.6%), Japan (-9.5%), South Korea (-8.0%), Thailand (-5.8%) and Mainland China (-2.5%).

Taking a glance into 2016, the growth rate of exports is likely to continue to drop alongside sluggish momentum in private investment and insufficient growth in consumption. As a result, the DGBAS preliminarily estimates Taiwan's economic growth rate to reach -0.68% in Q1 and forecasts the annual economic growth rate to stand at 1.06%[26] in 2016 (Chart 2.21).

Chart 2.21 Economic growth rates in Taiwan

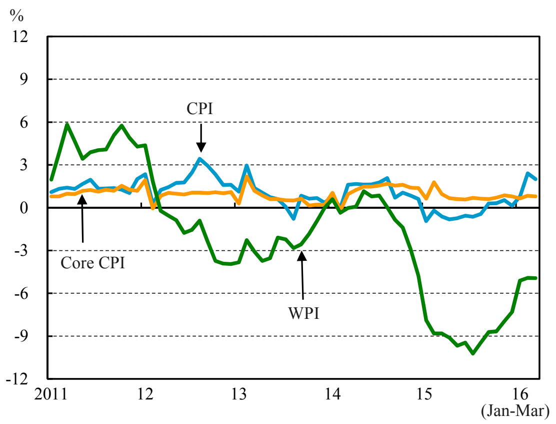


Note: Figure for 2016 is forecast by DGBAS.
Source: DGBAS.

2.2.2 Domestic prices remained stable

In 2015, dragged down by the decrease in the international prices of raw materials, such as crude oil, the wholesale price index (WPI) inflation rate showed a downward trend, which continuously magnified from January and turned to narrow after registering -10.23% in July. Afterwards, the WPI inflation rate reached -7.30% in December (Chart 2.22). The annual WPI inflation rate stood at -8.84% in 2015, lower than the -0.57% in the previous year, and reached the lowest level on record. The DGBAS projects the annual WPI inflation rate to remain in negative territory at -2.88% in 2016.[27]

Chart 2.22 Consumer and wholesale price inflation rates



Note: Figures are measured on a year-on-year change basis.
Source: DGBAS.

Attributed to a prolonged weakness in international crude oil prices and the plunges in prices of gasoline, electricity and gas, the CPI inflation rates were negative from January to August in 2015. However, domestic prices of vegetables and fruits rose considerably owing to the influence of typhoons and torrential rain, and the CPI inflation rate turned positive from September, whereas the core CPI inflation rates all kept positive during the whole year (Chart 2.22). Eventually the annual CPI inflation rate registered -0.31% in 2015, lower than the 1.20% of the previous year, while the core CPI inflation rate rose moderately and reached 0.79%, lower than the 1.26% recorded a year earlier. With global economic recovery

26 See Note 3.
27 See Note 3.

remaining slow and the international prices of crude oil and cereals continuing at low levels, the DGBAS forecasts the annual CPI inflation rate to ascend to 1.09%[28] in 2016.

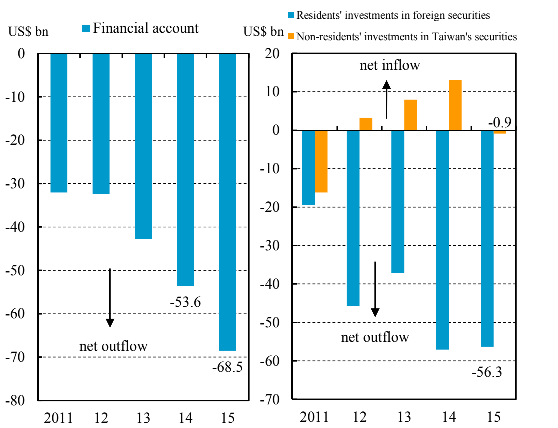
2.2.3 Current account surplus persisted and foreign exchange reserves stayed abundant

In 2015, despite both merchandise exports and imports decreasing compared to the previous year, the trade surplus rose as exports decreased less than imports, causing the annual current account surplus to reach US$75.5 billion, or 14.44%[29] of annual GDP, with an increase of US$13.0 billion or 20.83% compared to 2014.

The annual balance of outflows expanded to a record high of US$68.5 billion in 2015. Focusing on the components of the financial account, residents' investments in foreign securities in 2015 held at a high level primarily resulting from the continuously increasing foreign bond investments by insurance companies. Meanwhile, non-residents' investments in Taiwan's securities shrank, owing to the reduced investments by foreign institutional investors in the domestic stock and bond markets (Chart 2.23). With rising outflows on the financial account but a greater increase in the current account surplus, the balance of payments surplus climbed to US$15 billion in 2015, increasing by 15.34% from a year earlier.

On account of the continuous balance of payments surplus, the accumulation of investment earnings from foreign exchange reserve assets and the appreciation of major currencies, such as the euro, against the US dollar, the foreign exchange reserves climbed to US$426 billion at the end of December 2015, a slight increase of 1.68% from the previous year. At the end of April 2016, the amount of foreign exchange reserves continued to increase to US$433.2 billion. Furthermore, at the end of 2015, the ratio of foreign exchange reserves to short-term external debt turned to rise to 2.94 times

Chart 2.23 Financial account and net inflow/outflow of securities investments



Source: CBC.

[28] See Note 3.
[29] For the ratio of current account deficit to GDP, the cutoff point for risk is 3%. A country in which the reading is greater than 3% and has risen by at least 5 percentage points from the previous year is considered to be at relatively high risk.

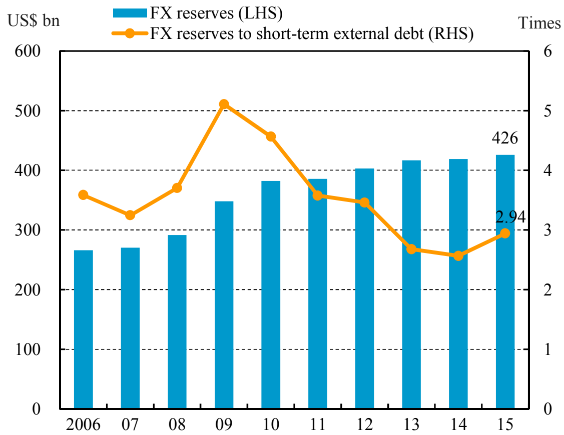
owing to an increase in foreign exchange reserves and a decrease in short-term external debt. Consequently, it was higher than internationally recognized minimum levels,[30] implying that Taiwan's foreign exchange reserves have a robust capacity to meet payment obligations (Chart 2.24).

2.2.4 Scale of external debt shrank and debt-servicing capacity improved

Taiwan's external debt[31] slightly rose in the first half of 2015 owing to the increases of offshore banking units' due from foreign banks and foreign deposits. Domestic banks repaid foreign loans with abundant capital from Q3, causing external debt to fall to US$159 billion, or 30.39% of annual GDP, at the end of the year, suggesting that the capacity to service external debt improved[32] (Chart 2.25).

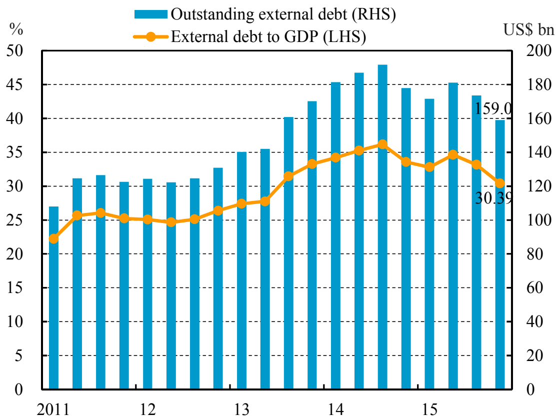
2.2.5 Fiscal deficits fell but government debt slightly rose

Chart 2.24 Short-term external debt servicing capacity



Note: FX reserves and external debt are end-of-period figures.
Source: CBC.

Chart 2.25 External debt servicing capacity



Notes: 1. External debts are end-of-period figures.
2. GDP is annual figures.
Sources: CBC and DGBAS.

To promote economic growth in 2015, the government appropriately increased expenditures and boosted spending on public infrastructure construction investment and technology development. However, the excess of central government tax revenues

30 The general international consensus is that a ratio of foreign exchange reserves to short-term external debt higher than 100% indicates relatively low risk.

31 The CBC defines external debt as the combined amount owed to foreign parties by Taiwan's public and private sectors, including long-term debt with a maturity of greater than one year and short-term debt with a maturity of one year or less. The term "public external debt" refers to debt that the public sector is either obligated to repay directly or has guaranteed (starting from December 2004, figures for public external debt include outstanding foreign debt arising from repo transactions between the CBC and international financial institutions). The term "private external debt" refers to private-sector foreign debt not guaranteed by the public sector.

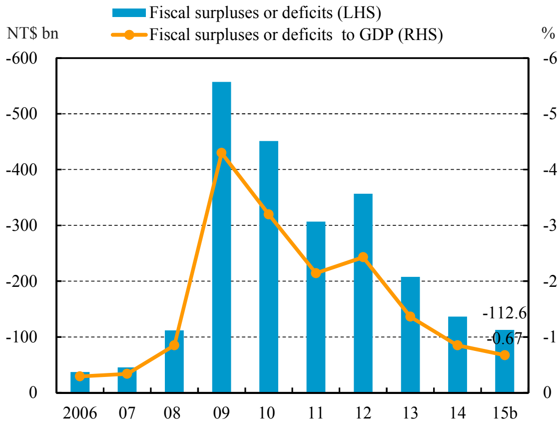
32 The general international consensus is that a country with a ratio of external debt to GDP lower than 50% is deemed to be at relatively low risk.

and surplus of debt expenditures[33] caused fiscal deficits to decline to NT$112.6 billion alongside a fall in the ratio of fiscal deficits to annual GDP to 0.67%[34] in 2015 (Chart 2.26).

As fiscal deficits stayed high and both central government and local governments relied on bond issuance to finance debt servicing expenditures, outstanding public debt at all levels of government[35] in 2015 expanded to NT$6.19 trillion,[36] or 37.11% of annual GDP,[37] from the NT$6.10 trillion registered in the previous year (Chart 2.27).

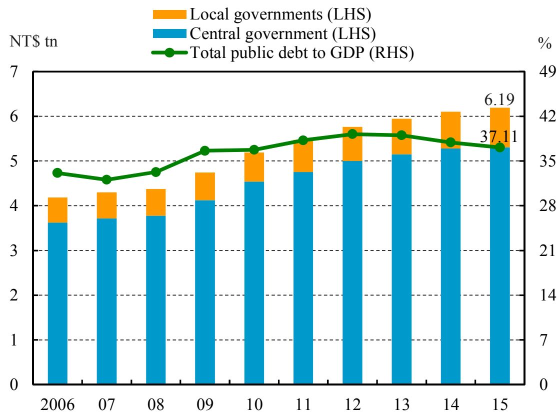
In order to promote fiscal health, the Ministry of Finance continued to implement the *Fiscal Health Plan* and *Central Government Debt Improvement Plan* that seek to enhance a sound fiscal system through the following approaches: implementing all the measures of increasing income and reducing expenses; improving the structures of revenue and expenditure; controlling the scale of debt; coordinating all resources; diversifying sources of finance; and timely modifying taxation.[38]

Chart 2.26 Fiscal deficits position



Notes: 1. Fiscal position data include those of central and local governments.
2. Data of fiscal deficits are annual figures. Figures for 2015 are final accounts and budgets for the central government and local governments, respectively.
Sources: MOF and DGBAS.

Chart 2.27 Public debts



Notes: 1. Outstanding public debt refers to non-self-liquidating debt with a maturity of one year or longer, excluding external debt.
2. Figures for 2015 are preliminary final accounts and budgets for the central government and local governments, respectively.
Sources: MOF and DGBAS.

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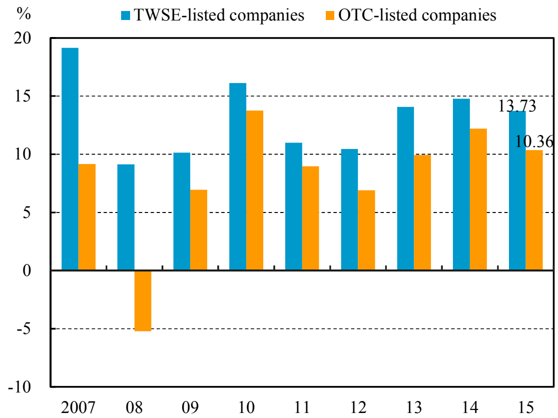
33 The figures are based on a DGBAS press release on 21 April 2016.
34 See Note 4.
35 The term "outstanding debt at all levels of government" as used in this report refers to outstanding non-self-liquidating debt with a maturity of one year or longer. As of April 2016, the outstanding one-year-or-longer non-self-liquidating public debts are NT$5.40 trillion, NT$0.59 trillion, NT$0.16 trillion, and NT$0.6 billion for central government, municipalities, counties, and townships, respectively. The figures account for 33.73%, 3.69%, 1.00%, and 0.004% of the average GDP for the preceding three fiscal years, which are below the ceilings of 40.6%, 7.65%, 1.63%, and 0.12% for central government, municipalities, counties, and townships, separately, set out in the *Public Debt Act*.
36 Outstanding non-self-liquidating debt at all levels of government with a maturity of one year or longer stood at NT$6.15 trillion as of the end of April 2016.
37 See Note 5.
38 It includes the restoration of the business tax on financial services to 5 percent and the implementation of the integrated housing and land tax system since January 1, 2016.

2.3 Non-financial sectors

2.3.1 Corporate sector[39]

The profitability of listed companies dropped in 2015. However, their financial leverage ratio declined and short-term debt servicing capacity enhanced. The credit quality of corporate loans stayed sound, as NPL ratios were at their lowest recorded level. Nevertheless, it is noteworthy that the deceleration in corporate investment growth could affect their long-term profitability.

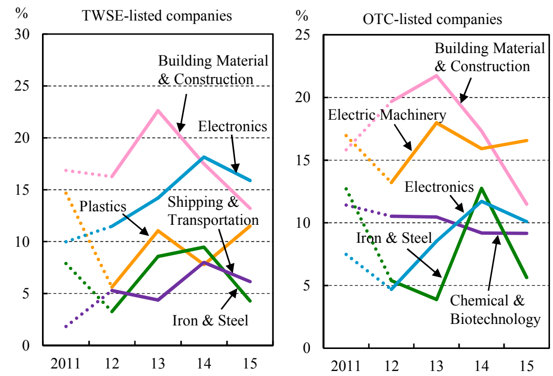
Chart 2.28 Return on equity in corporate sector



Note: Return on equity = net income before interest and tax/average equity.
Source: TEJ.

Profitability of listed companies dropped in 2015

Chart 2.29 Return on equity of TWSE-listed and OTC-listed companies by major industries



Source: TEJ.

In 2015, resulting from the slowdown of the recovery in the global economy and declining exports of Taiwanese companies, the average ROEs of TWSE-listed and OTC-listed companies dropped to 13.73% and 10.36%, respectively, from 14.78% and 12.21% in 2014 (Chart 2.28). Profitability fell, mainly driven by the decrease in market demand and the rise of the red supply chain in Mainland China, sluggish stock clearance in electronic products, as well as intense price competition among peers, bringing about profit downturns in the semiconductor, computers & peripheral equipment, and optoelectronic industries.

Except for the plastics industry, all major industries for TWSE-listed companies reported decreasing ROEs in 2015, especially the iron & steel and the building material & construction industries. For OTC-listed companies, except for slightly increased

[39] Corporate sector only includes the data of TWSE-listed companies and OTC-listed companies. Throughout this section, figures for listed companies are consolidated financial data; prior to 2011 are under ROC GAAP, while from 2012 are under the TIFRSs. In light of changes in accounting treatment and presentation, readers should interpret these figures prudently when comparing statistics before and after IFRSs adoption.

profitability in the electric machinery industry, all other industries experienced descended performance (Chart 2.29).

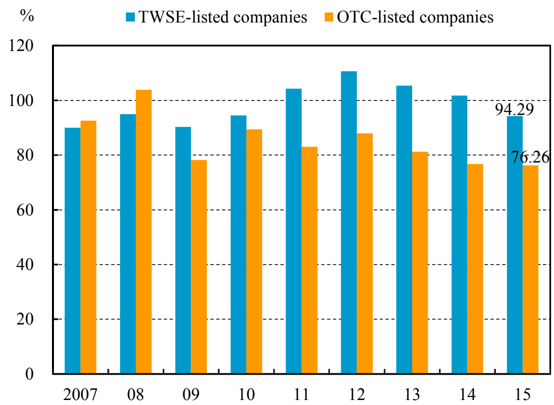
Leverage ratio decreased for listed companies

At the end of 2015, the average leverage ratio for TWSE-listed companies fell to 94.29% from 101.77% at the end of the previous year. Similarly, the average leverage ratio for OTC-listed companies also slightly decreased to 76.26% from 76.76% a year earlier (Chart 2.30). In 2015, listed companies achieved operating surpluses and arranged capital injections to reinforce capital adequacy, resulting in the run-up of total equity and a decline in leverage ratios.

Short-term debt servicing capacity for listed companies continued to enhance

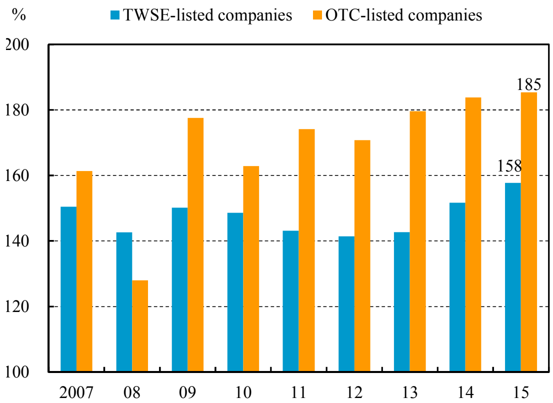
Owing to a greater decrease in current liabilities, the current ratio for TWSE-listed companies increased to 158% at the end of 2015, while the interest coverage ratio slightly rose to 13.45. In addition, the current ratio for OTC-listed companies continued to increase to 185%. However, their interest coverage ratio fell to 12.75, but still held at a relatively high level in recent years (Chart 2.31 and 2.32). For listed companies as a whole, short-term debt servicing capacity generally enhanced.

Chart 2.30 Leverage ratios in corporate sector



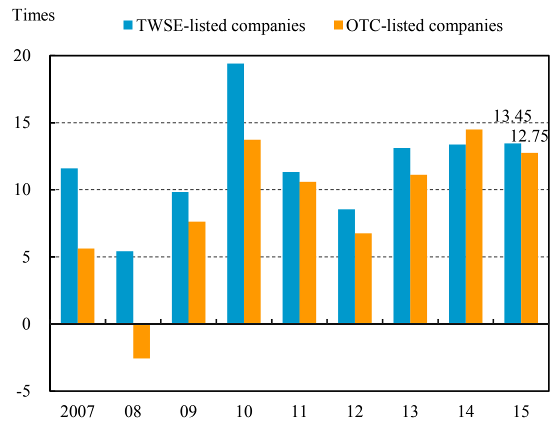
Note: Leverage ratio = total liabilities/total equity.
Source: TEJ.

Chart 2.31 Current ratios in corporate sector



Note: Current ratio = current assets/current liabilities.
Source: TEJ.

Chart 2.32 Interest coverage ratios in corporate sector

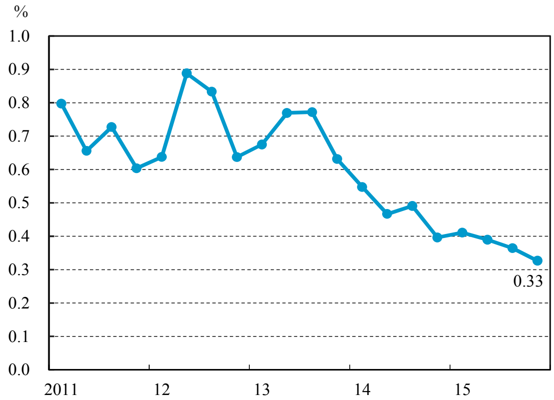


Note: Interest coverage ratio = income before interest and tax/interest expenses.
Source: TEJ.

Credit quality of corporate[40] loans remained sound

In 2015, the NPL ratio for corporate loans granted by financial institutions continued to decline as a result of massive write-offs of NPLs by large corporations, such as ProMOS Technologies and TPSi. The ratio declined to only 0.33% at the end of the year, reflecting sound credit quality for the corporate sector (Chart 2.33).

Chart 2.33 NPL ratios of corporate loans

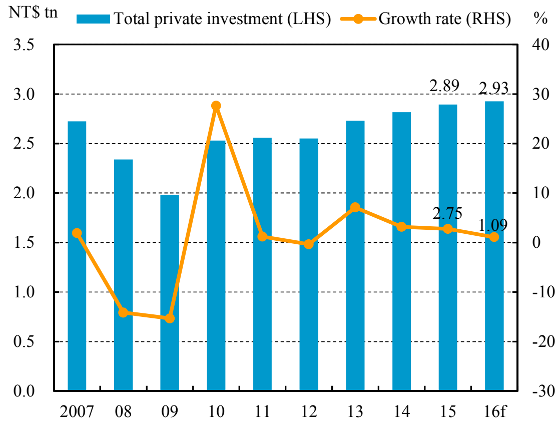


Note: End-of-period figures.
Source: JCIC.

Deceleration in corporate investment growth could affect long-term profit

As a result of lackluster recovery momentum in the global economy and the crowding-out effect by industrial supply chain localization in Mainland China, the corporate sector's profit outlook faces challenges, even affecting firms' willingness to invest. The growth rate of domestic private real investment (Chart 2.34) was only 2.75% in 2015, while the DGBAS predicts it will continue to decline to 1.09% for 2016. It is advisable for banks to pay close attention to the impact of the downturn in corporate investment growth on their long-term profit.

Chart 2.34 Private real investment



Source: DGBAS.

2.3.2 Household sector

The household debt burden relieved slightly as the balance of total household borrowing expanded more slowly than that of disposable income. The overall credit quality of household borrowing remained satisfactory; furthermore, combined with the falling unemployment rate and steadily growing regular earnings, this should help underpin the debt servicing capacity of households.

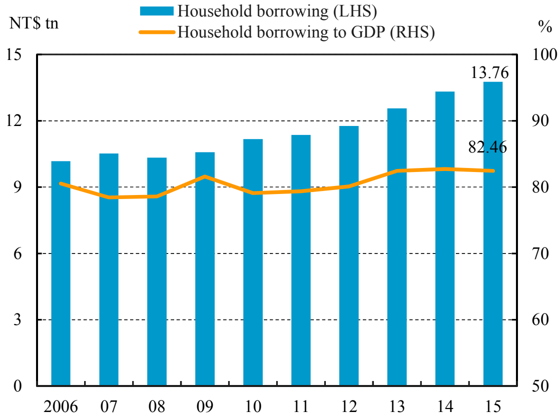
[40] The data for the corporate sector herein are on the basis of listed and unlisted corporations provided by the JCIC.

Household borrowing increased slightly

At the end of 2015, total household borrowing saw a slight expansion and reached NT$13.76 trillion, equivalent to 82.46% of annual GDP (Chart 2.35). The largest share of household borrowing went for the purchase of real estate (67.48%), followed by current operation loans[41] (27.60%). The rest of the household borrowing categories took only minor percentages, including loans to purchase movable properties, largely consisting of vehicle loans, business investment loans, and revolving balances on credit cards (Chart 2.36).

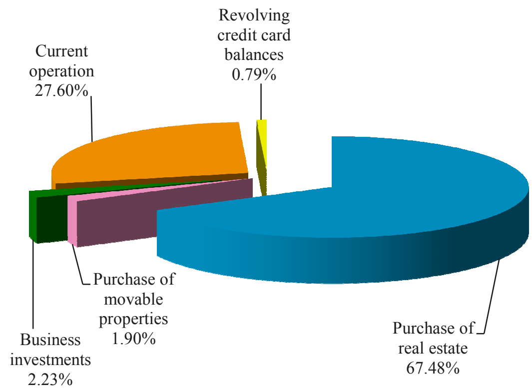
At the end of 2015, the increment of total household borrowing was mainly from an increase in loans for the purchase of real estate and current operation loans, and the annual growth rate of total household borrowing (in Taiwan) reduced to 3.32% at the end of 2015 from 6.04% a year earlier. Compared to other countries, the growth of total household borrowing in Taiwan was lower than that in South Korea and Australia, but higher than that in Japan and the US. In addition, as a percentage of GDP, household borrowing in Taiwan was much lower than that in Australia, equivalent to that in South Korea, but higher than that in the US and Japan (Chart 2.37).

Chart 2.35 Household borrowing to GDP



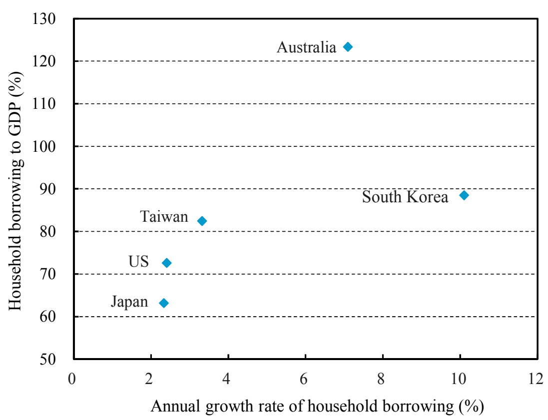
Sources: CBC, JCIC and DGBAS.

Chart 2.36 Household borrowing by purpose



Note: Figures are as of the end of 2015.
Sources: CBC and JCIC.

Chart 2.37 Household indebtedness in selected countries



Note: Figures are as of the end of 2015.
Sources: Fed, BOJ, BOK, ABS, IMF, DGBAS, CBC and JCIC.

41 The term “current operation loans” includes outstanding cash card loans.

The ratio of household borrowing to disposable income declined

As total household borrowing grew at a slower pace than disposable income in 2015, the ratio of household borrowing to total disposable income[42] shrank to 1.30 at the end of the year, reflecting a lessening of the household debt burden. However, owing to the increase in loans for the purchase of movable properties and current operations, the debt servicing ratio uplifted to 45.30% in 2015 from 43.91% a year earlier (Chart 2.38). Nevertheless, the decreasing domestic unemployment rate, still low interest rates on loans and steady growth of real regular earnings should help improve the debt servicing capacity of households (Chart 2.39).

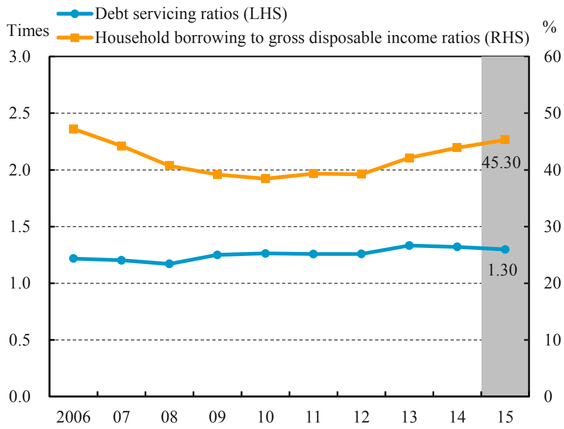
NPL ratio of household borrowing remained low

The NPL ratio of household borrowing stabilized at 0.23% at the end of 2015, remaining at a 5-year low. This indicated that household credit quality remained satisfactory (Chart 2.40).

2.3.3 Real estate market

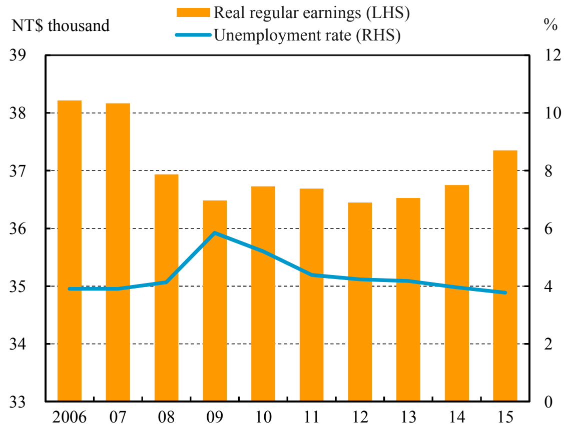
From 2015 onwards, trading volume in the real estate market contracted. House prices declined gradually but remained high. In addition, real estate loans grew slowly as mortgage interest rates fell moderately. With

Chart 2.38 Household indebtedness and debt servicing ratios



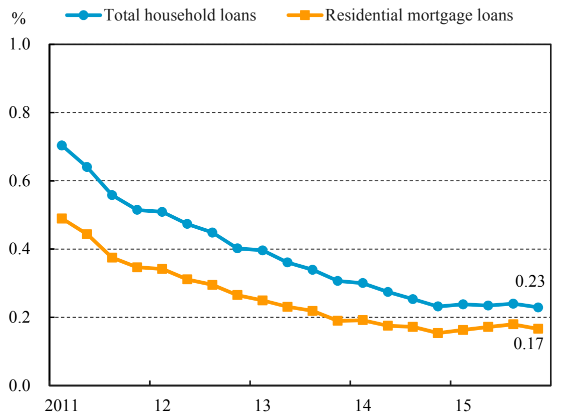
Note: Gross disposable income in shaded area is CBC estimate.
Sources: CBC, JCIC and DGBAS.

Chart 2.39 Unemployment rate and regular earnings



Sources: DGBAS and Ministry of Labor.

Chart 2.40 NPL ratios of household borrowing



Note: Figures are as of the end of each quarter.
Source: JCIC.

[42] Total disposable income = disposable income + rental expenses + interest expenses.

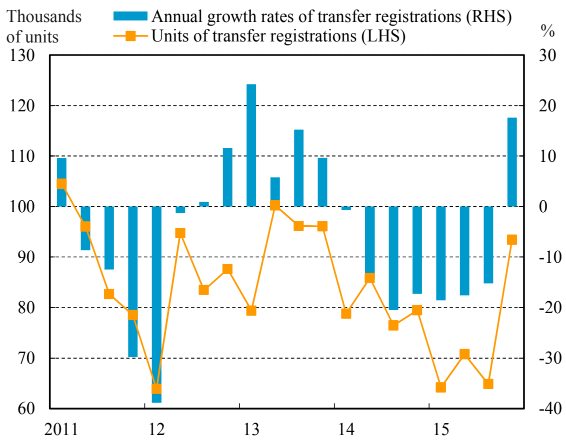
banks improving risk control of housing loans, the CBC gradually revised targeted prudential measures. In addition, the government has implemented some measures, including levying a consolidated housing and land income tax since 2016, combined with continuously expanding social housing. All the above-mentioned measures helped promote sound development of the real estate market.

Trading volume in the real estate market contracted

In the first three quarters of 2015, the total number of building ownership transfers for transaction further declined and showed double-digit negative growth as a result of slowing domestic economic growth, a heavier tax burden on real estate owners, and the uncertainty surrounding property tax reform. In Q4, trading volume in the real estate market increased significantly, with the annual growth rate rebounding to 17.59%, owing to the release of a large number of new existing buildings, transfers before the levying of a consolidated housing and land income tax[43] as well as the rising current land value, along with the CBC revising some regulatory measures on real estate loans (Chart 2.41). Therefore, the accumulated number of building ownership transfers for transaction was 290 thousand units in 2015, which was the lowest level since 2002, with an annual growth rate of -8.53%.

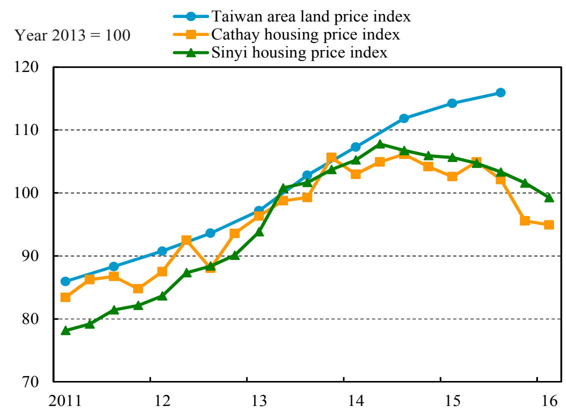
In 2016 Q1, the annual growth rate of the total number of building ownership transfers for transaction was -32.56%. From January to April, the total annual growth rate of the six metropolitan areas was -28.29%.

Chart 2.41 Building ownership registrations for transaction



Source: Monthly Bulletin of Interior Statistics, MOI.

Chart 2.42 Land and house price indices



Notes: 1. Taiwan area land price index is released semiannually. Figures are as of the end of March and September.
2. For comparison purposes, all three indices use the same base year of 2013 (2013 average = 100).

Sources: MOI, Cathay Real Estate and Sinyi Real Estate Inc.

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43 Amendments of certain provisions in *the Income Tax Act* and Amendments of Article 6-1 in *The Specifically Selected Goods and Services Tax Act* were promulgated on June 24, 2015, and came into force from January 1, 2016.

Real estate prices declined slightly

In 2015, driven by a contracted housing market, housing prices fell moderately. Over the same period, land prices trended up continuously, though at a slower pace, as the annual growth rate of the land price index declined to 3.66% as of the end of September 2015 (Chart 2.42). The housing price index reached its highest point in 2015 Q1 and then reversed to trend downwards. As of the end of 2015 Q4, the annual growth rate declined to 0.53%. Currently the index has declined by 1.16%[44] from its highest point.

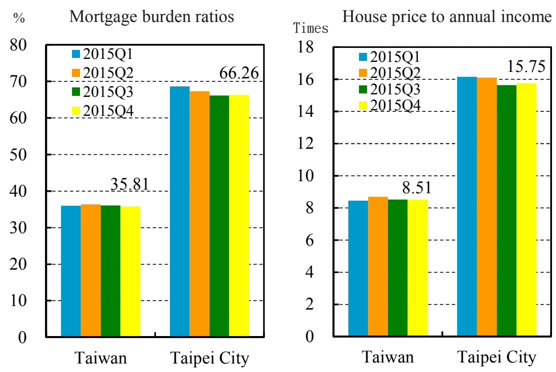
The Cathay housing price index (for new constructions) has fallen since 2015 Q3 (Chart 2.42), while the annual growth rate fell at a faster pace and was -7.47% as of 2016 Q1. The current index has dropped by 10.57% from its highest point in 2014 Q3.

The Sinyi housing price index (for existing buildings) has turned to negative growth since 2015 Q2, while the annual growth rate continuously fell at a faster pace, registering -6.04% as of 2016 Q1. The current index has fallen by 7.92% from its highest point in 2014 Q2.

Mortgage burden stayed high

In 2015, housing prices declined gradually and mortgage interest rates fell slightly. While the growth of household disposable income continued to slow, the mortgage burden ratio registered 35.81% in 2015 Q4, only declining by 0.29 percentage points quarter by quarter from Q3, but increasing by 0.19 percentage points year on year. The house price to income ratio during the same period was 8.51, falling by 0.01 quarter by quarter, but rising by 0.1 year on year (Chart 2.43). Compared to other cities in Taiwan, the mortgage burden and house price to income ratios in Taipei City were the highest, reaching 66.26% and 15.75, respectively.

Chart 2.43 Mortgage burden ratios and house price to income ratios



Notes: 1. Mortgage burden ratio = median housing loans monthly payments/median household monthly disposable income.
2. House price to annual income = median house price/median household annual disposable income.

Source: Housing Price Affordability Indicator Statistics, Construction and Planning Agency of the MOI.

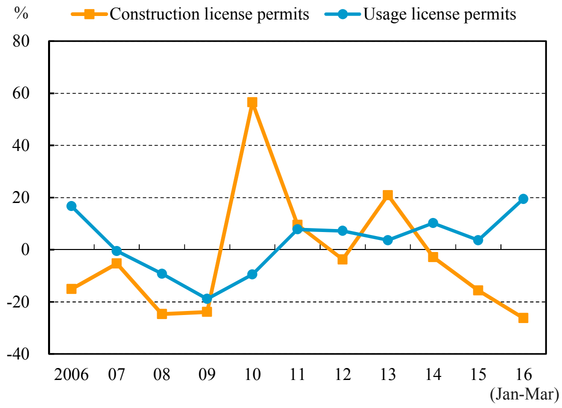
[44] The land price index was 119.28 as the Ministry of Interior re-designated 31 March 2013 as the base period (index = 100). The housing price index is comprised of the transacted housing prices data from the real estate market transaction price inquiry system of the Ministry of Interior.

Construction license permits contracted, while new residential properties construction expanded

In 2015, with sluggish economic growth, a decrease in new residential properties construction projects, as well as enterprises decreasing their demand for floor space to launch new stores, the total floor space of construction license permits decreased by 15.63% (Chart 2.44) year on year, with residential properties decreasing by 17.98%. From January to March 2016, the annual growth rate of the total floor space of construction license permits decreased continuously to -26.23%, with residential properties decreasing to -27.36%.

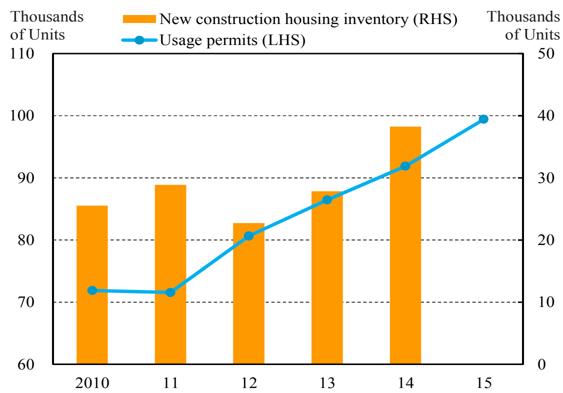
Owing to gradually completed construction projects being introduced to the market in recent years, the total floor space of usage permits increased continuously in 2015 (Chart 2.44), with an annual growth rate of 3.63%, mainly driven by the fact that residential properties increased by 4.82%. With the release of new buildings, the annual growth rate of the total floor space of usage permits registered 19.47% from January to March 2016, with the growth rate of residential properties reaching 17.08%.

Chart 2.44 Annual growth rates of floor space of construction license permits and usage license permits



Note: The annual growth rate of January to March 2016 is the currently accumulated number compared to the same time last year.
Source: Monthly Bulletin of Interior Statistics, MOI.

Chart 2.45 Units of new residential properties construction and usage permits



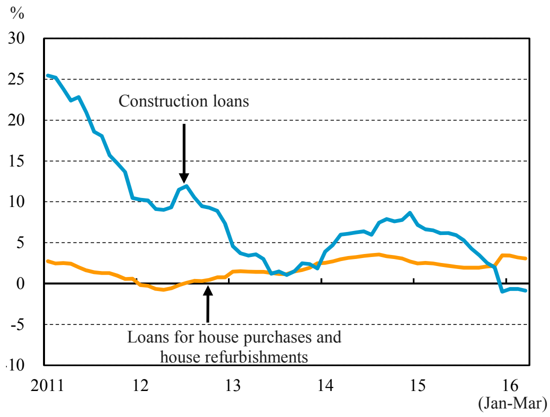
Note: New residential properties construction (for sale) uses data from land registration, house tax registration and Taiwan Power Company, filtering the residential properties built within the last 5 years, still maintaining the first registration and having the possibility of being for sale. The data began in 2010 Q2 and is currently published to 2014 Q4.
Source: Monthly Bulletin of Interior Statistics, MOI; Real estate information platform.

According to the Ministry of Interior, new residential properties construction (for sale) registered 38 thousand units at the end of 2014, increasing by around 10 thousand units or 37.37% year on year. In 2015, 99 thousand usage permits were released, showing that new residential properties increasing by 8 thousand units or 8.2% year on year (Chart 2.45). From January to March 2016, 24 thousand units were continuously released with an annual growth rate of 27.39%. Reflecting this, new construction housing inventory (for sale) will continuously increase.

Real estate loans grew modestly as mortgage interest rates slightly decreased

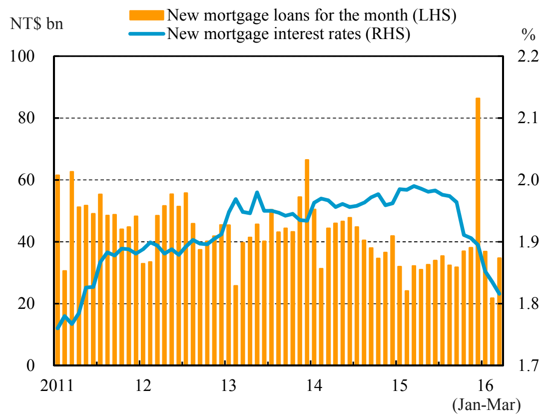
In 2015, housing loans grew slowly, owing to the CBC and the FSC continuously urging financial institutions to control their risk relating to real estate loans. At the end of September 2015, the annual growth rate of the outstanding loans for house purchases and house refurbishments granted by banks[45] decreased to 1.94%. Subsequently, owing to an increase of transactions in the real estate market in 2015 Q4, the annual growth rate rebounded marginally and then registered 3.06% as of the end of March 2016 (Chart 2.46). Meanwhile, outstanding construction loans turned to negative growth at the end of 2015 and the annual growth rate registered -0.86% as of the end of March 2016 (Chart 2.46).

Chart 2.46 Annual growth rates of real estate loans



Source: CBC.

Chart 2.47 New mortgages – amounts and interest rates



Source: CBC.

In 2015 Q4, the new loans for house purchases granted by the top five banks[46] increased significantly, owing to transactions in the real estate market returning to an upward trend. Meanwhile, the accumulated number decreased by 11.14% year on year to NT$446.4 billion in 2015. From January to March 2016, the figure increased by 5.72% year on year. The interest rate for new mortgages gradually decreased and then dropped to 1.816% in March 2016 (Chart 2.47).

The CBC moderately revised targeted prudential measures

From 2015 onwards, the CBC continuously deployed measures to enhance risk management

[45] Refers to domestic banks and the local branches of foreign and Mainland China's banks.
[46] The top five banks refer to Bank of Taiwan, Taiwan Cooperative Bank, First Commercial Bank, Hua Nan Commercial Bank, and Land Bank of Taiwan.

regarding the real estate loans of financial institutions, and moderately revised related measures according to banks' real estate lending and developments in the housing market. In August, the CBC revised several measures related to house-purchase loans, including removing six districts from the scope of the designated Specific Areas, raising the loan-to-value (LTV) ratio ceiling to 60% on housing loans taken out for high-value housing and those taken out by corporate legal entities or third (or more) home purchases by natural persons.

In March 2016, the CBC repealed most rules imposed on home mortgage loans and land loans, except for high-value housing loans. In the CBC's assessment, targeted macro-prudential measures on the real estate sector have proved effective, and financial institutions have continued to strengthen self-discipline on mortgage-related credit risk. In addition, as the government rolled out several taxation schemes to promote sound development of the housing market, speculative demand has tapered off. However, a large portion of newly extended mortgage loans remains concentrated on high-value home purchases; therefore, relevant regulations should be continuously put in place. In the future, the CBC will continue to keep watch on banks' real estate lending and developments in the housing market. Appropriate measures will be adopted in a timely manner to sustain financial stability (Box 1).

Box 1
The CBC adjusted targeted prudential measures on real estate lending

With a view to controlling the credit risk incurred by financial institutions' real estate lending, the CBC has successively adopted various targeted prudential measures governing real estate-related loans since June 2010. These measures have gradually come into effect. The financial institutions have prudently managed real estate-related credit risk, and speculative demand in the real estate market has abated while property transactions have moderated. Moreover, the government has continued with the advancement of its residential policy, helping to sustain the sound development of the housing market. Taking these developments into account, since August 2015 the CBC has adjusted the prudential measures on real estate lending twice so as to promote financial stability.

1. The CBC revised the contents of its targeted prudential measures twice

Given that the effects of several targeted prudential measures emerged progressively, the CBC adjusted some of the measures from 14 August 2015 onwards, including reduction of the scope of Specific Areas and increases in the caps on loan-to-value (LTV) ratios. The CBC further slashed most of the targeted prudential measures on 25 March 2016 and merely retained regulations pertinent to high-value housing (Table B1.1).

Table B1.1 Key amendments to targeted prudential measures on real estate lending

Items	Previous regulation	Key amendments on 14 August 2015	Key amendments on 25 March 2016
1. Mortgage loans for house purchases in Specific Areas	1. LTV ratio capped at 60% 2. Scope of Specific Areas: (1) All districts in Taipei City (2) 17 districts in New Taipei City (3) 4 districts in Taoyuan City	Repealed the following Specific Areas: 1. Bali and Yingge districts in New Taipei City 2. All 4 districts in Taoyuan City	Repealed
2. LTV ratio cap on loans for a natural person's third (or more) mortgage house(s)	LTV ratio capped at 50%	LTV ratio capped at 60%	Repealed
3. LTV ratio cap on mortgage loans for corporate legal entities	LTV ratio capped at 50%	LTV ratio capped at 60%	Repealed
4. Land collateralized loans	1. LTV ratio capped at 65% 2. Disbursement of 10% of	Unchanged	Repealed

	the approved loan amount to be withheld until construction commences 3. Concrete and detailed plans for construction projects required upon loan application		
5. Mortgage loans for high-value housing	1. LTV ratio capped at 50% 2. Definition of high-value housing: (1) Properties in Taipei City valued at NT$70 million and above (2) Properties in New Taipei City valued at NT$60 million and above (3) Properties located elsewhere in Taiwan, valued at NT$40 million and above	LTV ratio capped at 60%	Unchanged

Note: The 17 districts in New Taipei City include Banqiao, Sanchong, Zhonghe, Yonghe, Xinzhuang, Xindian, Tucheng, Luzhou, Shulin, Xizhi, Sanxia, Linkou, Tamsui, Wugu, Taishan, Bali, and Yingge. The four districts in Taoyuan City include Taoyuan, Luzhu, Zhongli, and Guishan.

Source: CBC.

2. Major considerations of the CBC's adjustments

2.1 The effects of the prudential measures came into view

The concentration of banks' loans on real estate alleviated as the ratio of outstanding real estate loans to total loans dropped to 35.00% in February 2016 from 37.59% in June 2010. The concentration of housing loans in Specific Areas also descended, while the ratio of new housing loans in Specific Areas to total new housing loans decreased to 40.27% in February 2016 from 64.99% in June 2010. Moreover, compared to the condition before implementation of the prudential measures, the LTV ratios of various regulated loans all showed a downward trend, whereas their mortgage rates rose gently (Table B1.2).

2.2 Housing market transactions moderated and house prices fell gradually

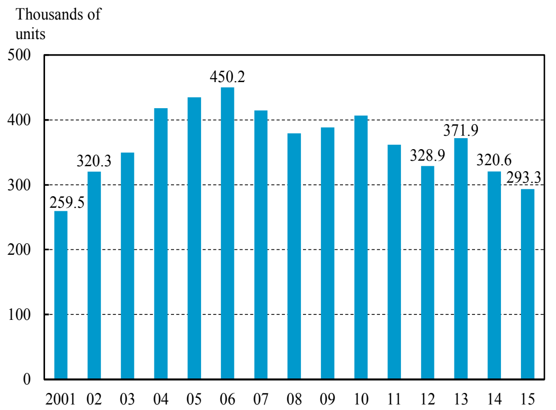
The number of buildings traded nationwide diminished markedly in 2015, setting a new record low from 2002 (Chart B1.1). Moreover, the price indices of existing houses and new houses at the end of 2015 also dropped by 5.8% and 10%, respectively, from the peak recorded in 2014 (Chart B1.2).

Table B1.2 LTV ratios and mortgage rates of regulated loans

Items	LTV ratios		Mortgage rates	
	Base period	February 2016	Base period	February 2016
Mortgage loans for house purchases in Specific Areas	63.91% (July 2010)	57.21%	1.97% (July 2010)	2.07%
Mortgage loans for high-value housing	80-99% (June 2012)	56.48%	1.84% (June 2012)	1.94%
Mortgage loans for a natural person's third (or more) mortgage home(s)	58-72% (June 2014)	58.05%	1.97% (June 2014)	2.13%
Land collateralized loans	68.36% (December 2010)	62.36%	2.08% (December 2010)	2.71%

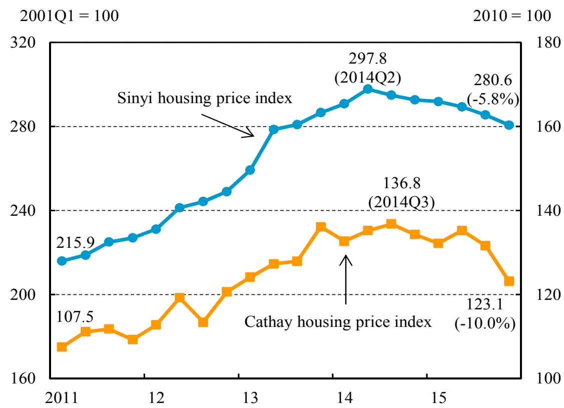
Source: CBC.

Chart B1.1 Buildings traded nationwide



Source: Monthly Bulletin of Interior Statistics, MOI.

Chart B1.2 2011-2015 House Price Indices



Note: Sinyi housing price is for existing houses, and Cathay housing price is for new houses.

Sources: Sinyi Real Estate Review and Cathay Real Estate Indicators Quarterly Bulletin.

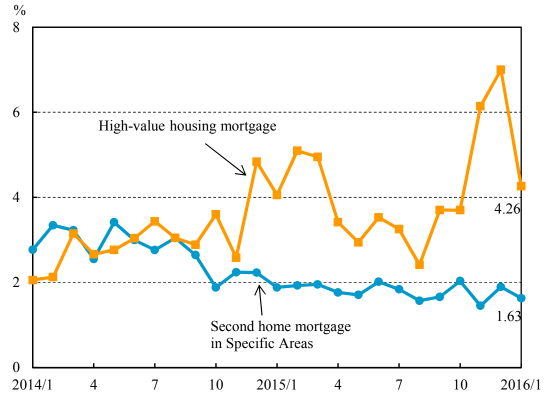
2.3 Concentration of high-value housing loans remained elevated

The ratio of high-value housing loans to total new housing loans undertaken by banks stood on the high side (Chart B1.3), indicating that banks' excessive concentration on high-value housing loans still existed. Meanwhile, volatile high-value housing prices will raise related credit risks borne by banks. Accordingly, these loans still need to be kept under regulation.

3. The CBC will persistently monitor the risk management of financial institutions on real estate lending

In the future, the CBC will continue to pay close attention to financial institutions' risk management of real estate-related credit and developments in the property market, and will undertake appropriate policy actions in a timely manner as warranted so as to sustain financial stability.

Chart B1.3 Proportion of banks' new mortgage loans for housing



Source: CBC.