

## 2.3 Non-financial sectors

### 2.3.1 Corporate sector<sup>39</sup>

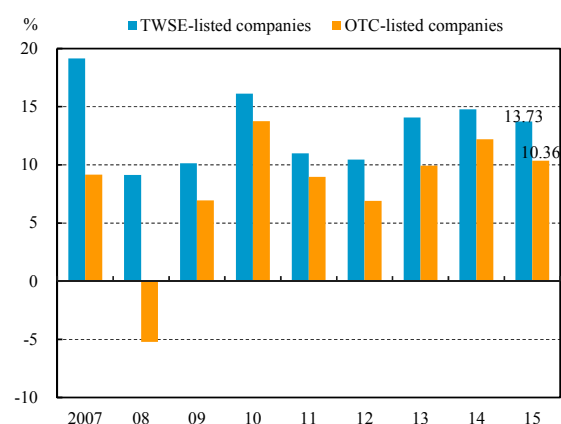
The profitability of listed companies dropped in 2015. However, their financial leverage ratio declined and short-term debt servicing capacity enhanced. The credit quality of corporate loans stayed sound, as NPL ratios were at their lowest recorded level. Nevertheless, it is noteworthy that the deceleration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

#### Profitability of listed companies dropped in 2015

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

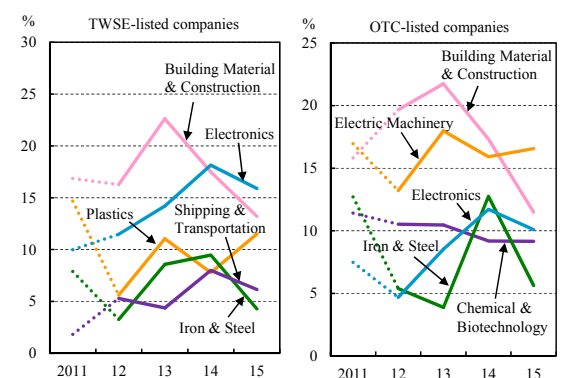
Chart 2.28 Return on equity in corporate sector



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

Source: TEJ.

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



Source: TEJ.

<sup>39</sup> 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).

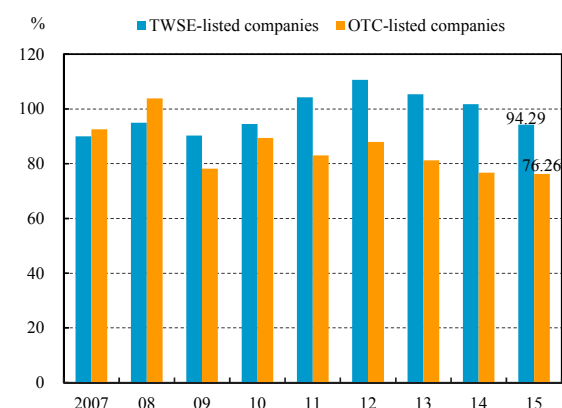
### Leverage ratio decreased for listed companies

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

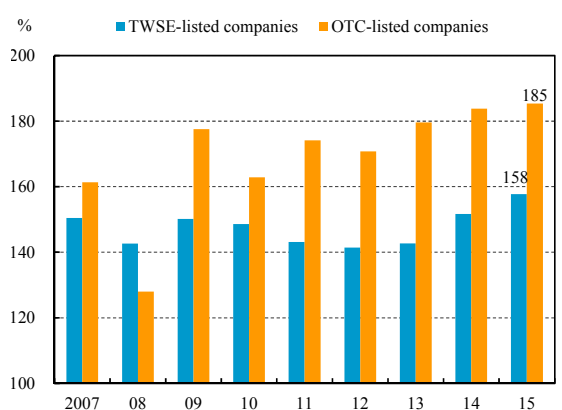
Owing to a greater decrease in current liabilities, the current ratio for TWSE-listed companies increased to 158% at the end of 2015, while the interest coverage ratio slightly rose to 13.45. In addition, the current ratio for OTC-listed companies continued to increase to 185%. However, their interest 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



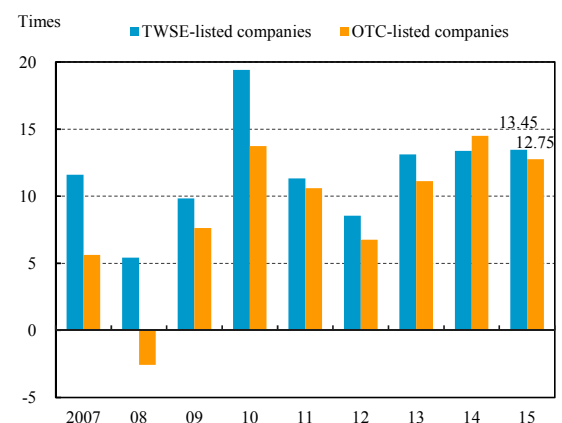
Note: Leverage ratio = total liabilities/total equity.  
Source: TEJ.

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

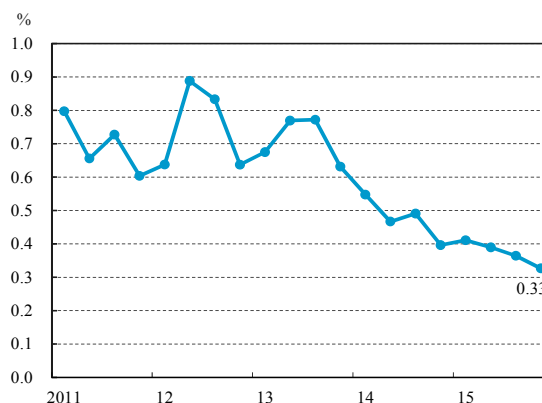


Note: Interest coverage ratio = income before interest and tax/interest expenses.  
Source: TEJ.

### Credit quality of corporate<sup>40</sup> 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

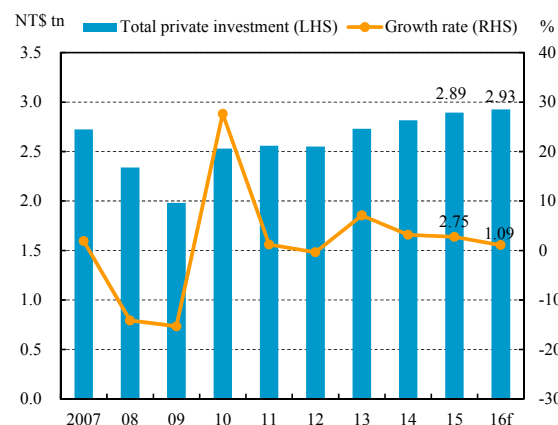


Note: End-of-period figures.  
Source: JCIC.

### 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.

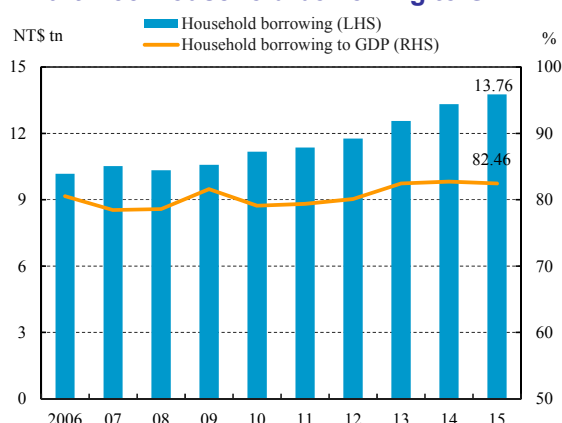
<sup>40</sup> The data for the corporate sector herein are on the basis of listed and unlisted corporations provided by the JCIC.

### 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<sup>41</sup> (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).

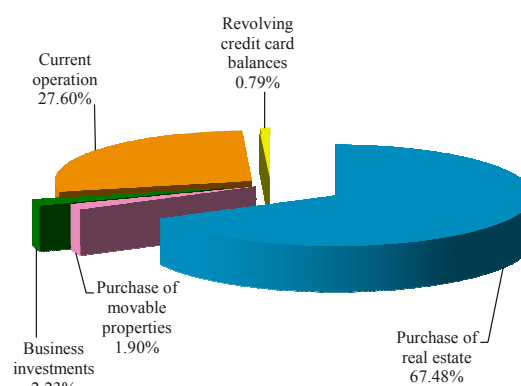
At the end of 2015, the increment of total household borrowing was mainly from an increase in loans for the purchase of real estate and current operation loans, and the annual growth rate of total household borrowing (in Taiwan) reduced to 3.32% at the end of 2015 from 6.04% a year earlier. Compared 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



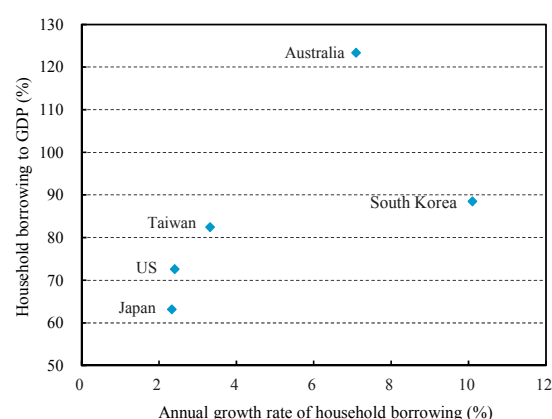
Sources: CBC, JCIC and DGBAS.

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.

<sup>41</sup> 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<sup>42</sup> 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

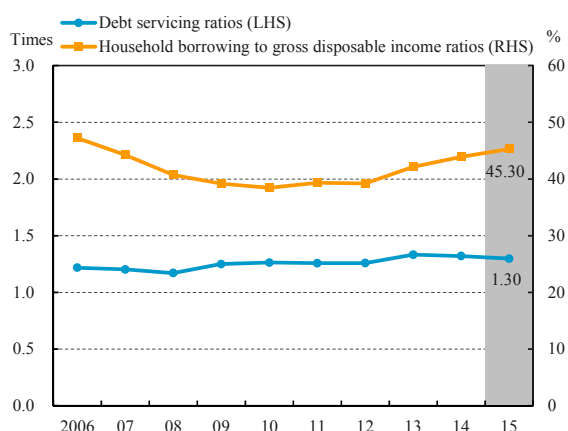
The NPL ratio of household borrowing stabilized at 0.23% at the end of 2015, remaining at a 5-year low. This indicated that household credit quality remained satisfactory (Chart 2.40).

### 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

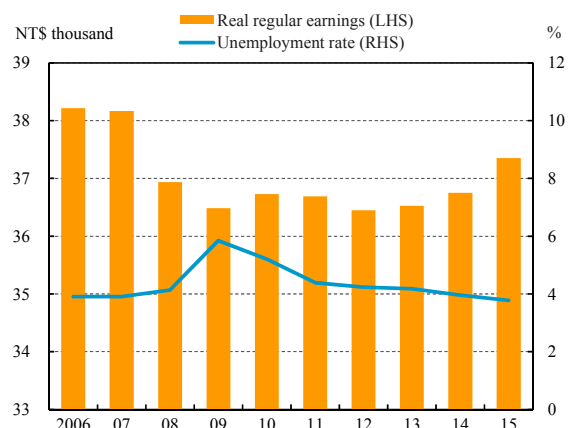
<sup>42</sup> Total disposable income = disposable income + rental expenses + interest expenses.

Chart 2.38 Household indebtedness and debt servicing ratios



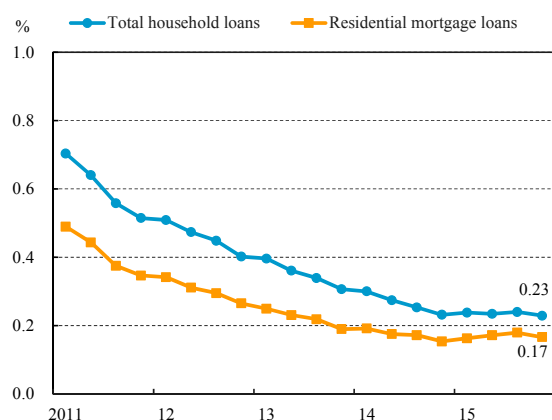
Note: Gross disposable income in shaded area is CBC estimate. Sources: CBC, JCIC and DGBAS.

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.

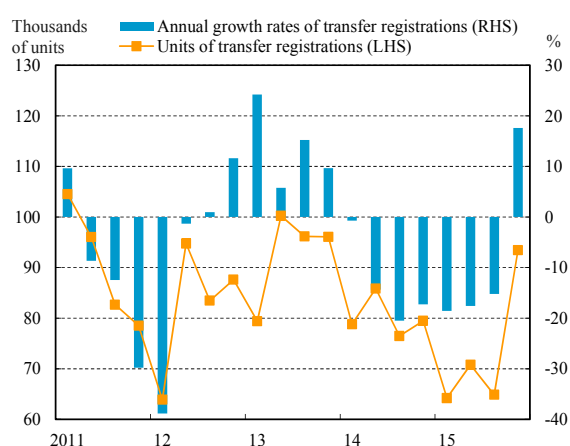
banks improving risk control of housing loans, the CBC gradually revised targeted prudential measures. In addition, the government has implemented some measures, including levying a consolidated housing and land income tax since 2016, combined with continuously expanding social housing. All the above-mentioned 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<sup>43</sup> 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%.

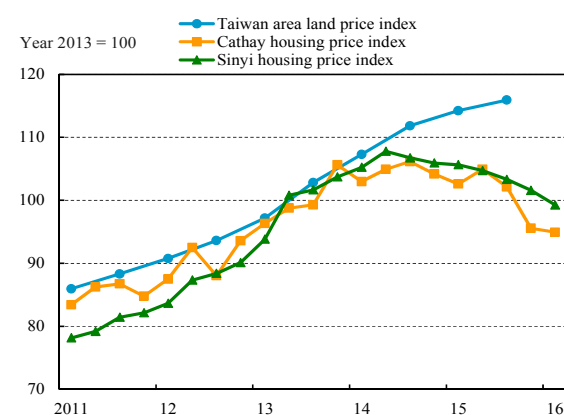
In 2016 Q1, the annual growth rate of the total number of building ownership transfers for transaction was -32.56%. From January to April, the total annual growth rate of the six metropolitan areas was -28.29%.

**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.

<sup>43</sup> 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%<sup>44</sup> from its highest point.

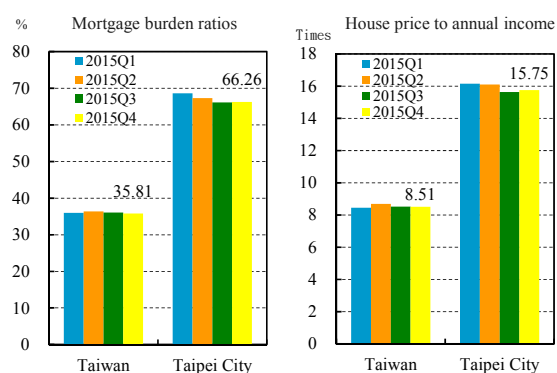
The Cathay housing price index (for new constructions) has fallen since 2015 Q3 (Chart 2.42), while the annual growth rate fell at a faster pace and was -7.47% as of 2016 Q1. The current index has dropped by 10.57% from its highest point in 2014 Q3.

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.

<sup>44</sup> 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.

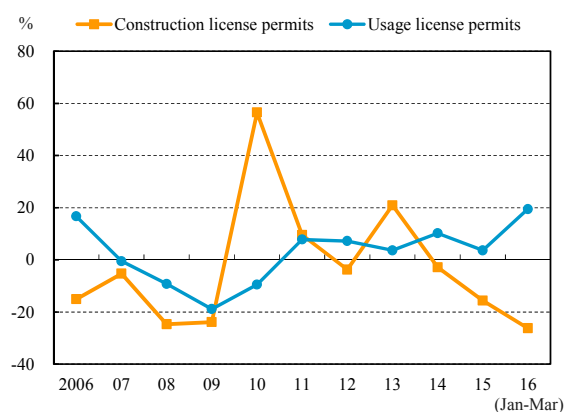
### Construction license permits contracted, while new residential properties construction expanded

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%.

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

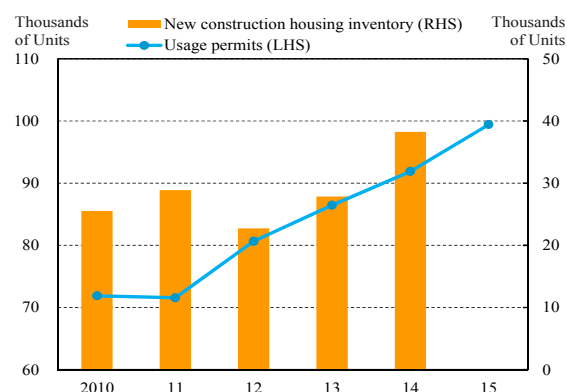
**Chart 2.44 Annual growth rates of floor space of construction license permits and usage license permits**



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.



construction housing inventory (for sale) will continuously increase.

**Real estate loans grew modestly as mortgage interest rates slightly decreased**

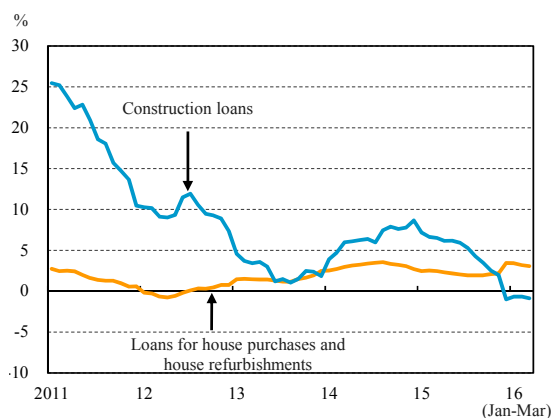
In 2015, housing loans grew slowly, owing to the CBC and the FSC continuously urging financial institutions to control their risk relating to real estate loans. At the end of September 2015, the annual growth rate of the outstanding loans for house purchases and house refurbishments granted by banks<sup>45</sup> 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).

In 2015 Q4, the new loans for house purchases granted by the top five banks<sup>46</sup> 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**

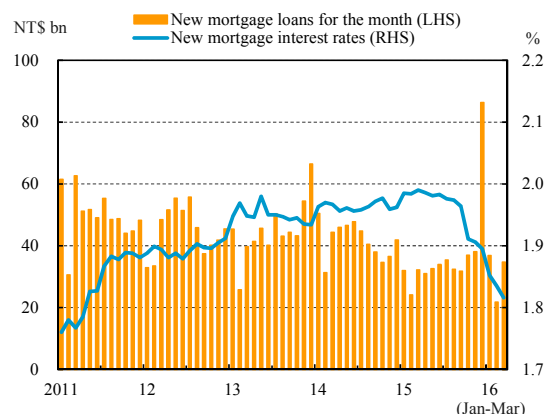
From 2015 onwards, the CBC continuously deployed measures to enhance risk management

**Chart 2.46 Annual growth rates of real estate loans**



Source: CBC.

**Chart 2.47 New mortgages – amounts and interest rates**



Source: CBC.

<sup>45</sup> Refers to domestic banks and the local branches of foreign and Mainland China’s banks.

<sup>46</sup> 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**

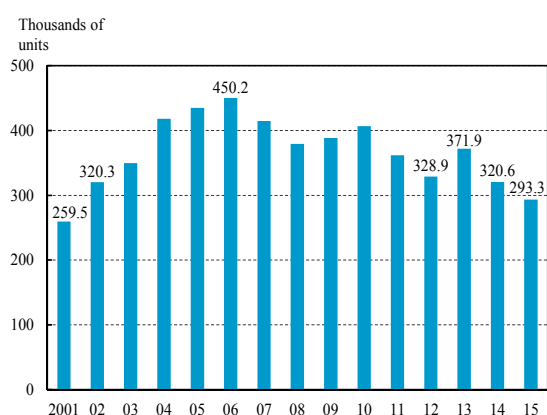
The number of buildings traded nationwide diminished markedly in 2015, setting a new record low from 2002 (Chart B1.1). Moreover, the price indices of existing houses and new houses at the end of 2015 also dropped by 5.8% and 10%, respectively, from the peak recorded in 2014 (Chart B1.2).

**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%

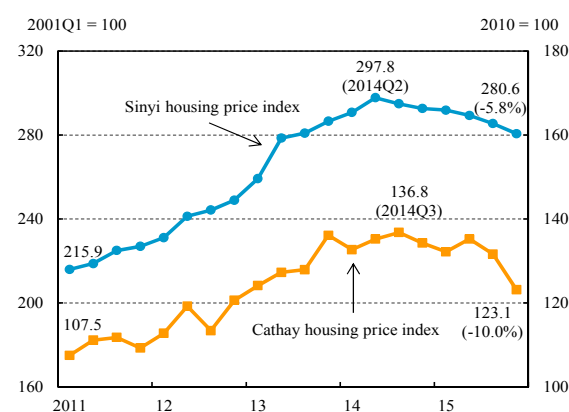
Source: CBC.

**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.

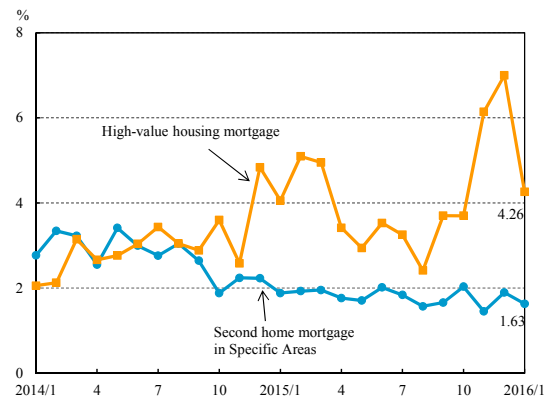
### 2.3 Concentration of high-value housing loans remained elevated

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.