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# The Global Real Estate Market 2017

April 2018

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**Nomura Research Institute, Ltd.**

Otemachi Financial City Grand Cube,  
1-9-2 Otemachi, Chiyoda-ku, Tokyo 100-0004, Japan

<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
<b>Korea</b>	Economic stagnation has affected residential and retail, but office is stable.
<b>Taiwan</b>	Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.
<b>Singapore</b>	Oversupply in each market has surfaced due to global economic slowdown.
<b>Thailand</b>	Residential and office in Bangkok and its surrounding areas are stable under economic recovery.
<b>India</b>	Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.
<b>Russia</b>	Office and retail markets in Moscow have struggled due to prolonged stagnation.
<b>USA</b>	Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential.

<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
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<b>Russia</b>	Office and retail markets in Moscow have struggled due to prolonged stagnation.
<b>USA</b>	Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

## China

The market has been cooling down after market business uptrend peak has passed.

1

Macro Economy and Real Estate Investment

2

Real Estate Investment

3

Residential Market

4

Commercial Development and Office Market

5

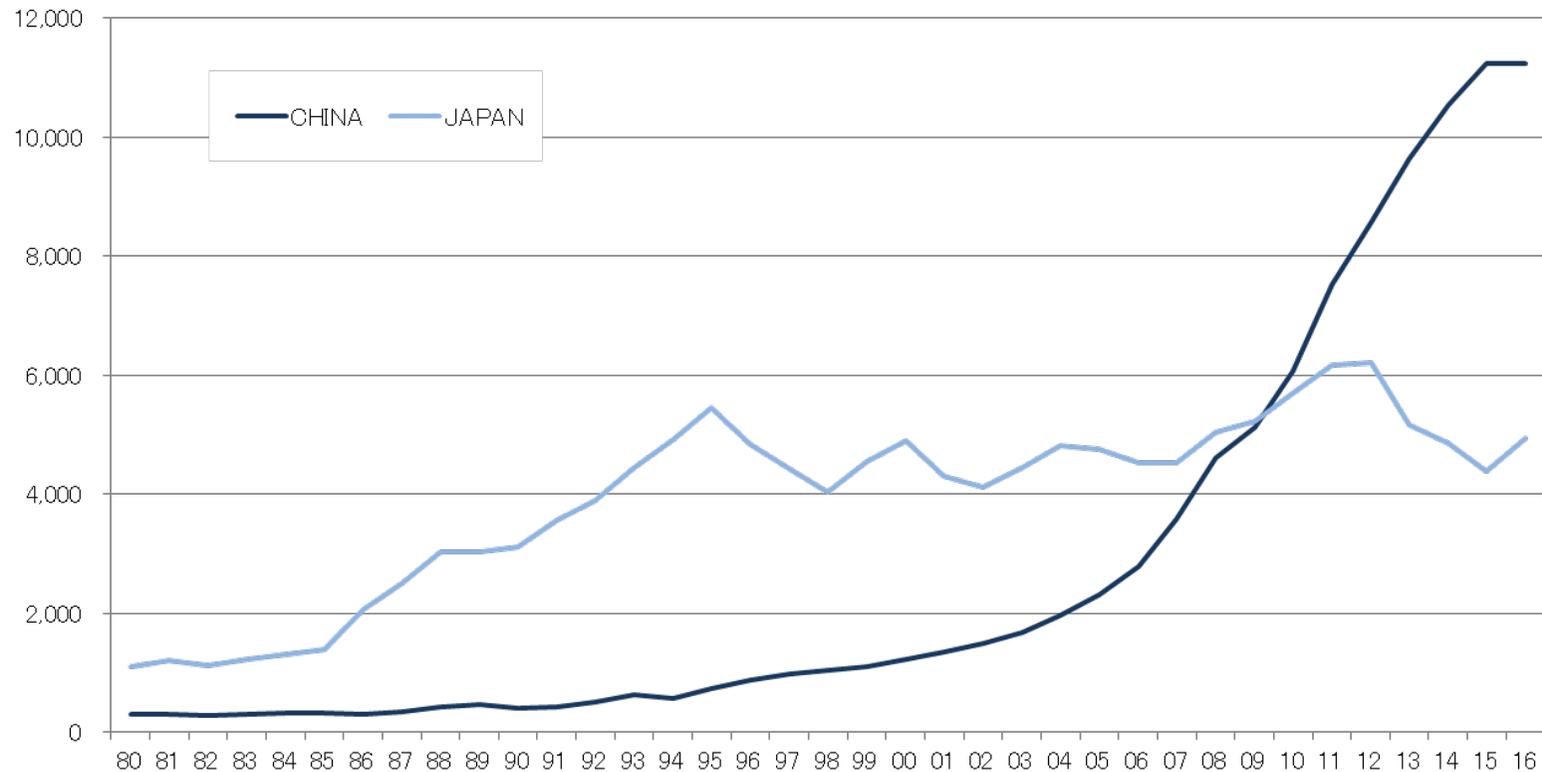
Movements of Chinese Real Estate Developers

## China's Macroeconomic Environment: Economic Growth

**China's GDP overtook Japan in 2010, and the gap will expand after 2012. But it's somewhat eased in 2016.**

*Changes in Japan and China's nominal GDP*

(bn USD)

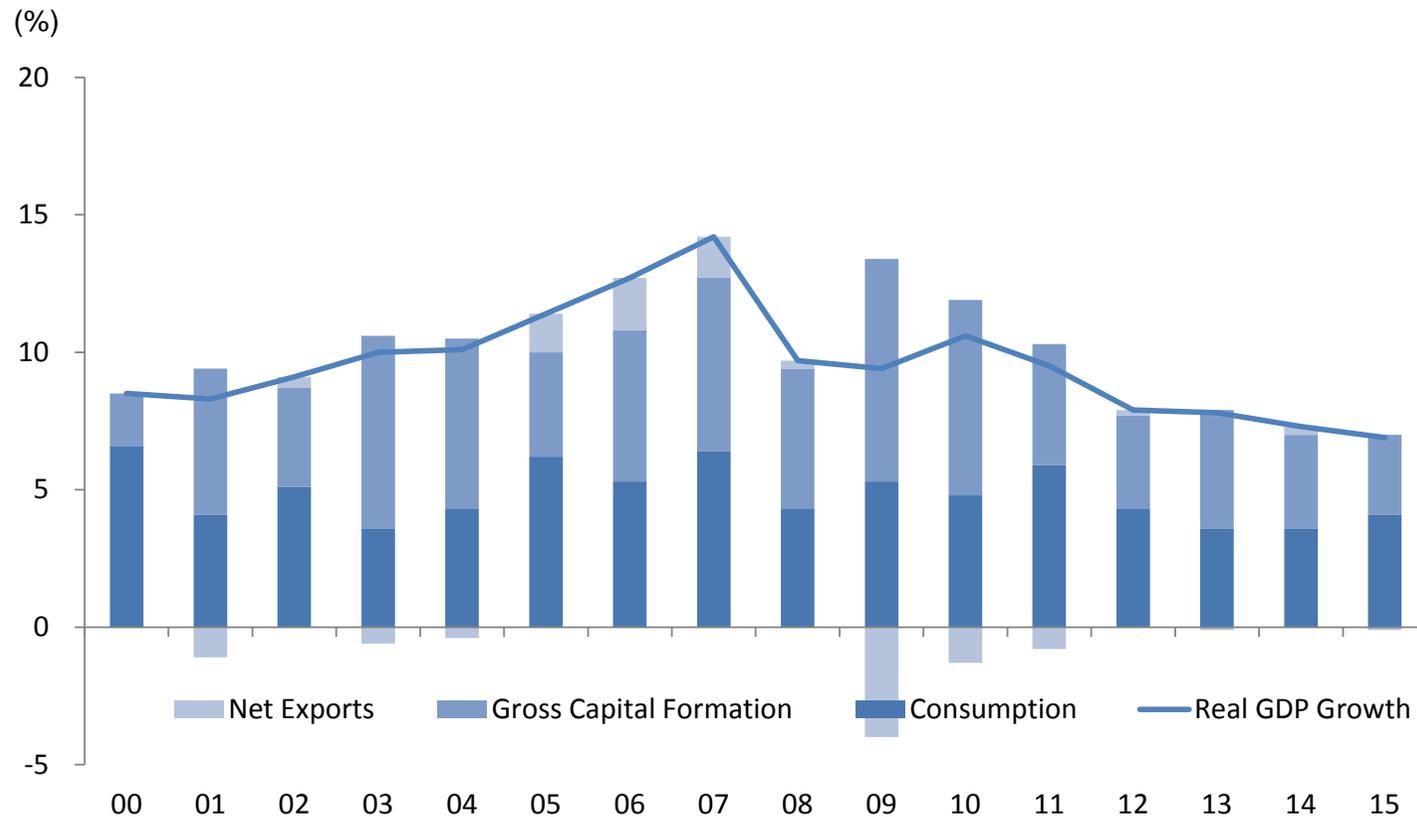


Source: IMF

## China's Macroeconomic Environment: Economic Growth

Real GDP growth rate has been on a downward trend since 2007, and it has reached the lowest level in 2015, which is behind the transition from investment-led growth to consumption-led growth.

Changes in real GDP growth rate of China and sectoral contribution

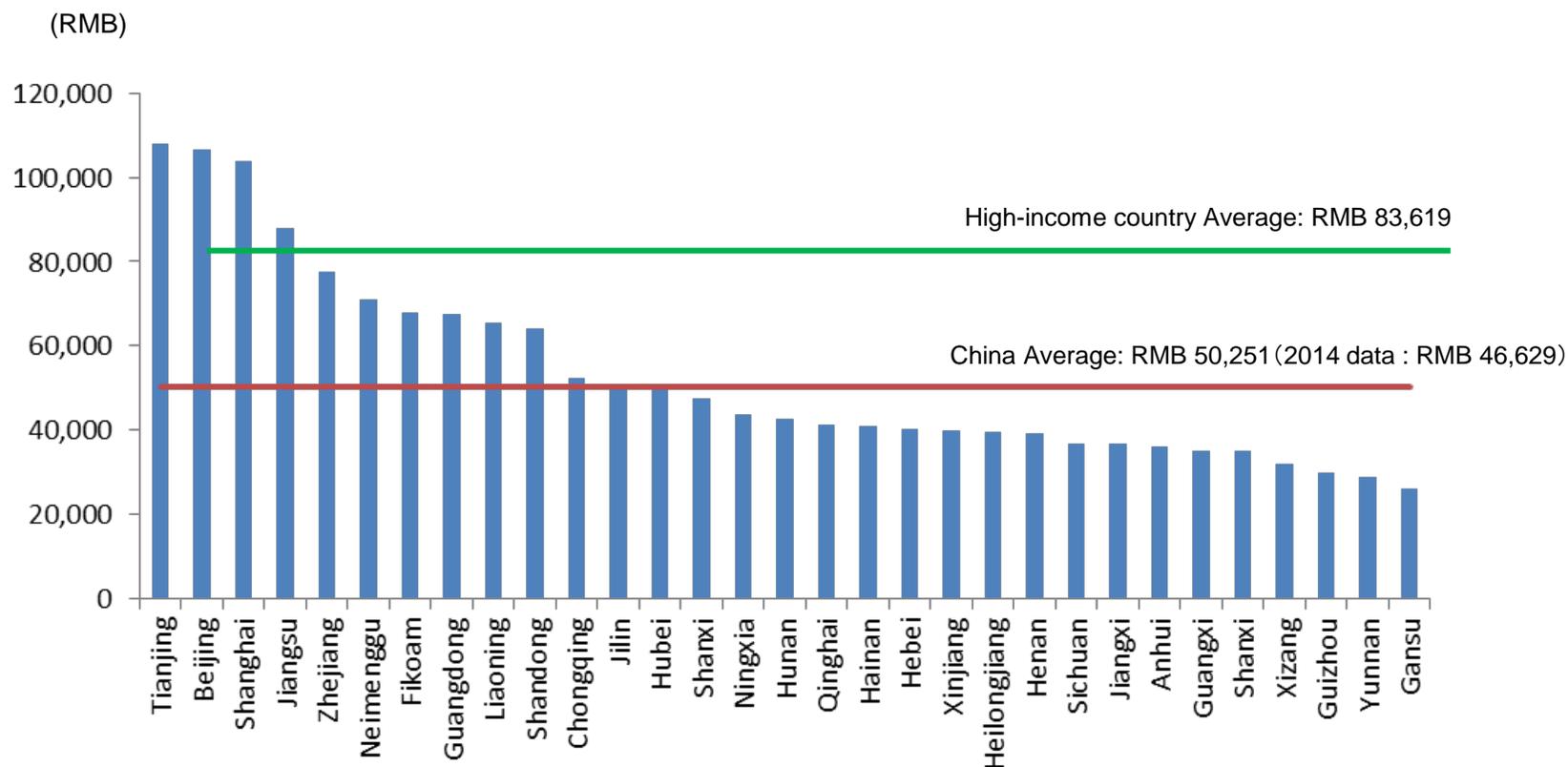


Source: The National Bureau of Statistics of China

## China's Macroeconomic Environment: Economic Growth

The national average of per capita GDP in 2015 increased by 3,222 yuan as compared with 2014. Just as the three big cities of Tianjin, Beijing and Shanghai, Jiangsu Province has also reached high income national standard of US\$12,616.

GDP per capita by province/municipality directly under the central government (2015)



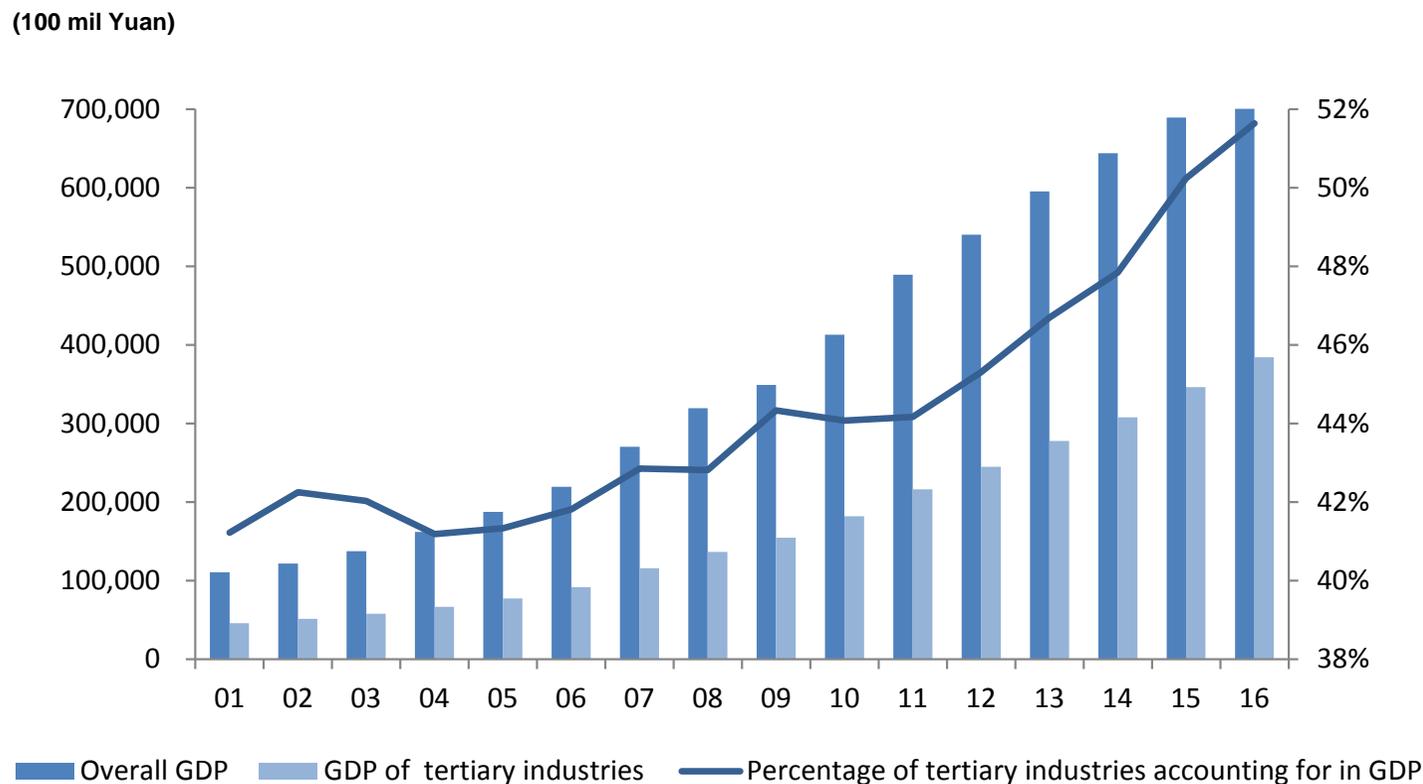
Note: World Bank definition of high-income country: GDP per capita  $\geq$  USD 12,616 (about RMB 83,619 according to the rate on November 1, 2017)

Source: National Bureau of Statistics, China

## China's Macroeconomic Environment: Economic Growth

In the background of industrial upgrading, the tertiary industries have been growing with their contribution to a GDP growth of over 50% in 2016. This growth became the main factor for increasing real estate investment in urban areas.

*Trends of Percentage of Tertiary Industries Accounting for in GDP*

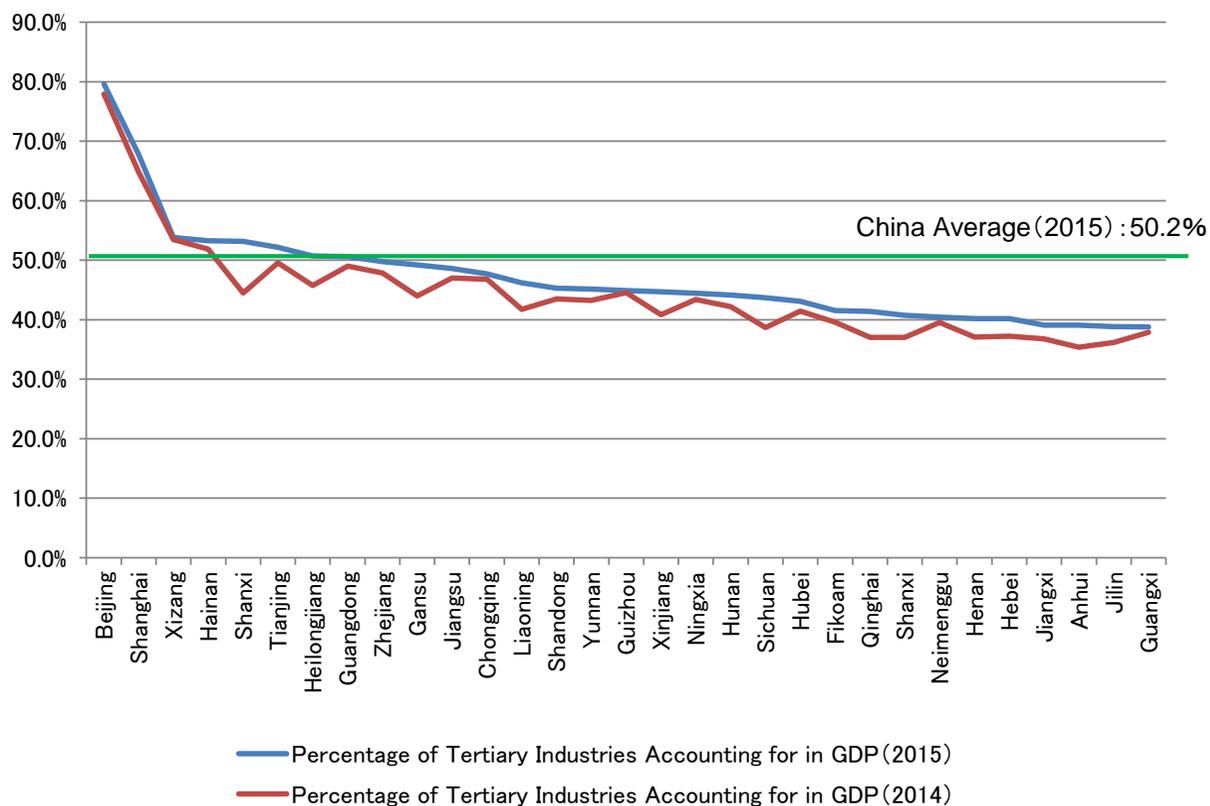


Source) National Bureau of Statistics of China

## China's Macroeconomic Environment: Economic Growth

From 2014 to 2015, the proportion of tertiary industry was increasing in every region. Shanxi, Gansu, Sichuan, and Heilongjiang provinces showed particularly high growth rates of more than 5%.

Percentage of tertiary industry GDP as a whole by region (compared to 2014 versus 2015)

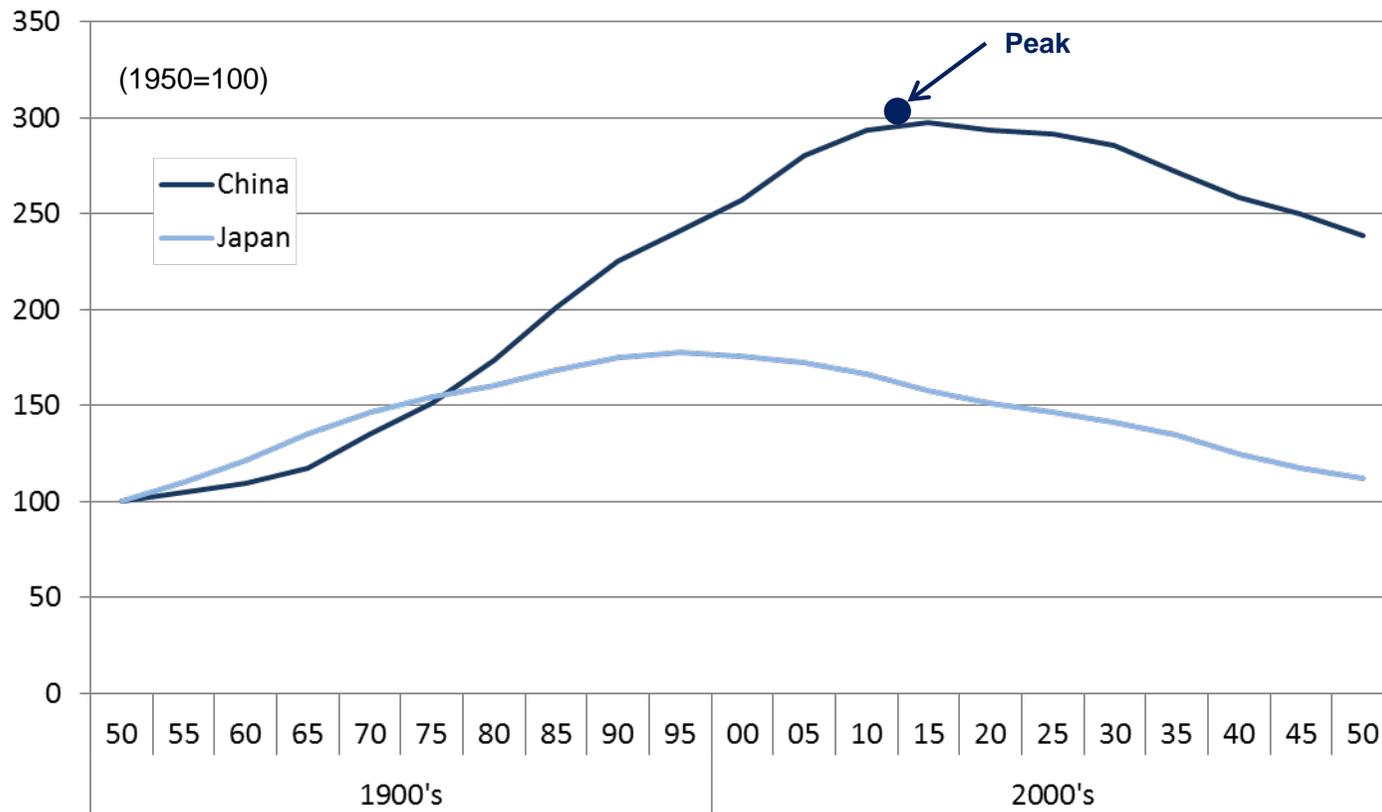


Source) National Bureau of Statistics of China

## China's Macroeconomic Environment: Population

The peak-out of productive-age population is coming, there's a widespread concern about economic slowdown.

*Productive-age population of China and Japan*



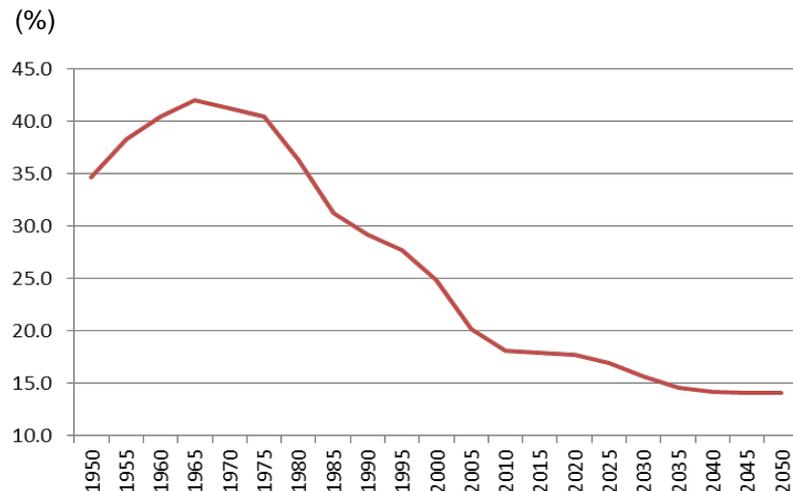
Source: Compiled by NRI from UN World Population Prospects: 2017 Revision

## China's Macroeconomic Environment: Demographic changes

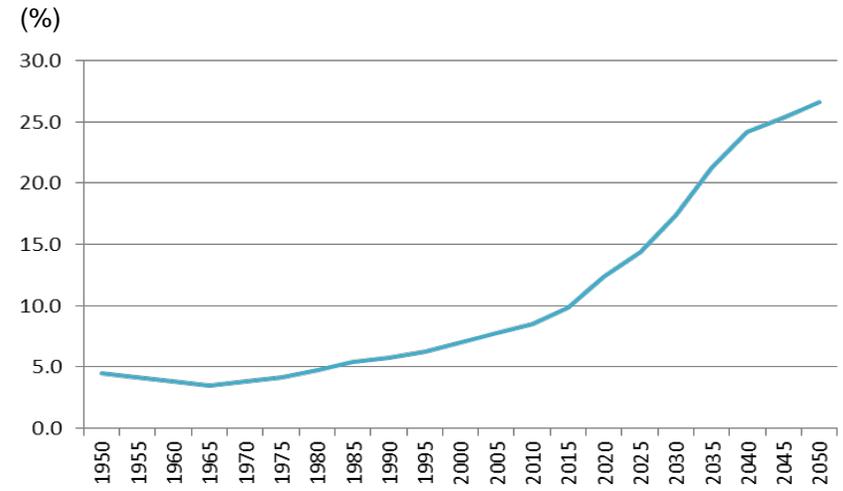
As the measures to cope with declining production population and the rise in the number of elderly population, "Two-child policy" has been officially introduced since 2016, which is expected to boost economic growth.

- After 2015, when it is estimated China's demographic dividend disappears, the government has to face an increased financial burden, a decrease of the labor force, a consumption slump and other problems due to a declining birthrate and aging population.
- As a countermeasure, in January 2016 the government abolished the "One-child policy," and formally adopted the "Two-child" policy. At present, there are many families who can't produce the second child due to high childcare expenses and education costs. However, looking at the remarkable population increase in 2016, it can be seen that this policy was effective.
- The number of births in China in 2016 was 17.88 million, which increased by 1.32 million compared with 16.54 million, the average number of births from 2012 to 2015.
- On the other hand, for the proportion of people over 65 years old, it has exceeded 10% in 2016, following Japan. China is predicted to enter an aging society after 2025 and into a super aged society after 2035.  
(※ If the "aging rate" exceeds 14%, it is classified as aged society, if over 21% it is classified as super aged society)

Change in proportion of young population (<15)



Change in proportion of 65+ population

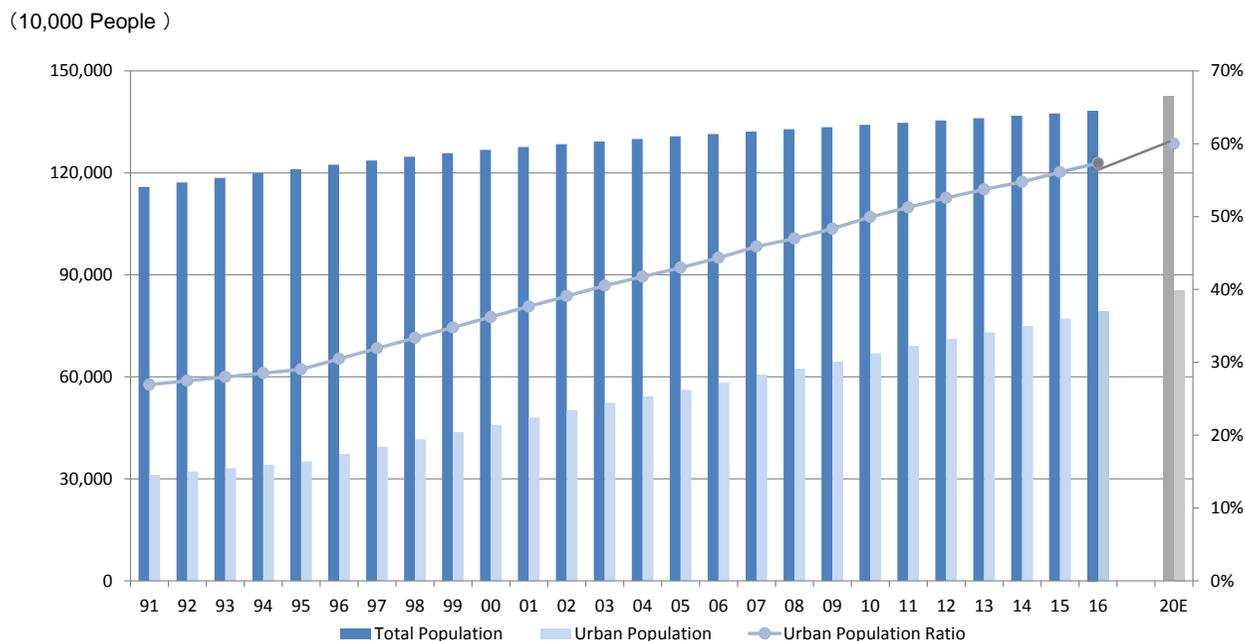


## China's Macroeconomic Environment: Demographic changes

**Urbanization rate in 2016 reached 57.4%, which is expected to reach 60% of the policy goal in 2020 in another two years.**

- China's urbanization rate had risen by more than 30% points from 1991 to 2016.
- The National New-type Urbanization Plan (2014-2020) was issued by the State Council of China on 16th March 2014. The plan highlights that it is essential to raise the quality of urbanization that comes in line with the Chinese approach to urbanization. The plan also underlined that by 2020, permanent urban residents will reach approx. 60% of the population, while residents in the city census register will account for approx. 45% of the total population, with 100 million rural residents settling down in the urban areas.

### *Population and urbanization rate in china*

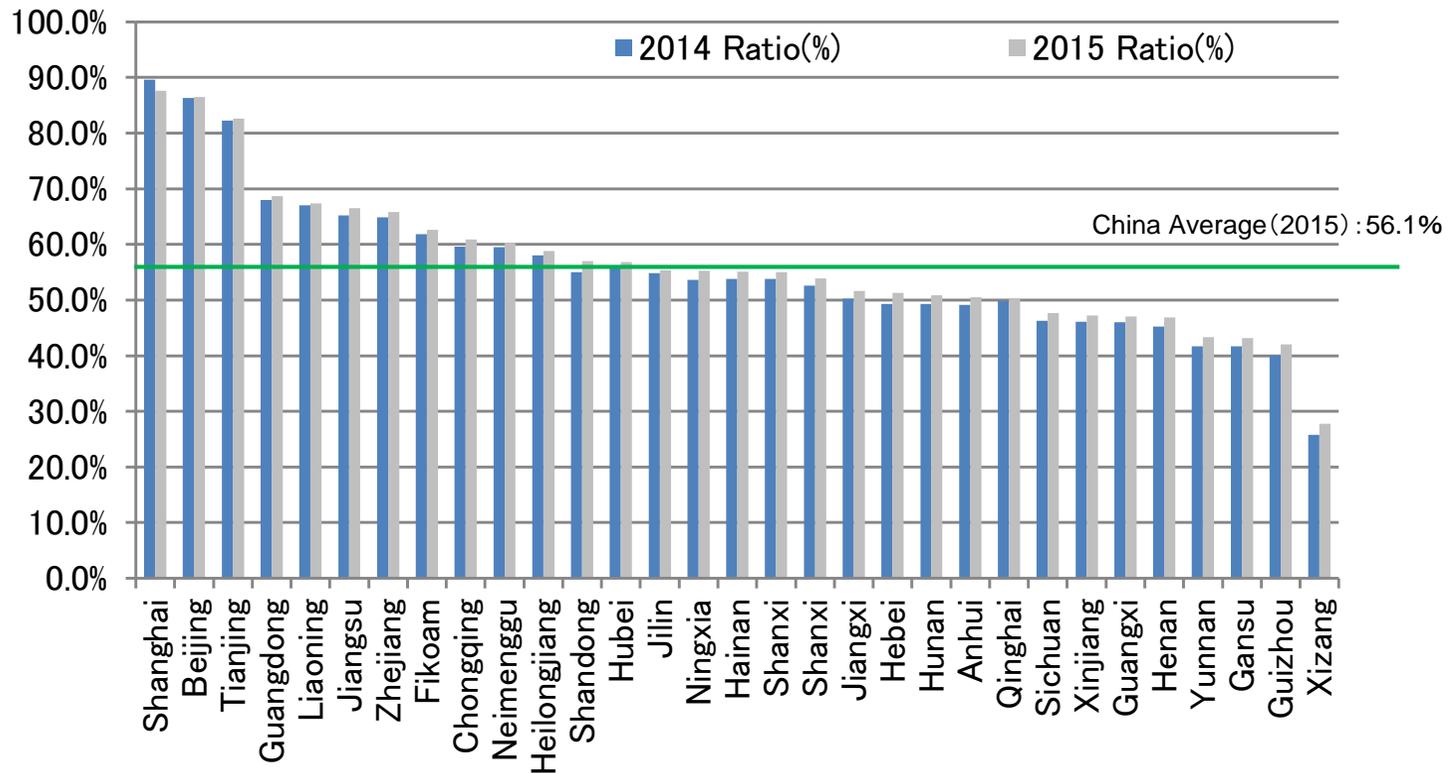


Note) Total population in 2020 is the estimate value of UN while the urbanization rate is the target value stated in government policy.

## China's Macroeconomic Environment: Demographic changes

Urbanization which has progressed mainly in the coastal area has progressed to inland regions and the Northeast such as Liaoning, Chongqing, Inner Mongolia and Heilongjiang. The four provinces of Tibet, Shandong, Guizhou and Hebei are particularly fast to progress in this year.

Urbanization rate of China by area (compared to 2014 versus 2015)



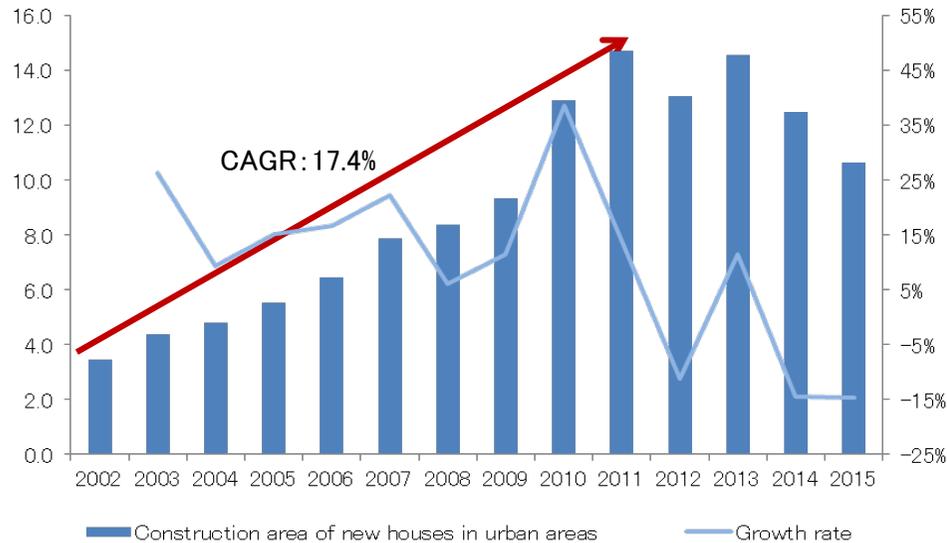
Source: National Bureau of Statistics, China

## China's Macroeconomic Environment: Housing conditions

Although the newly constructed housing construction area in the urban area which peaked in 2011 had a somewhat declining trend since 2011 when the real estate market regulation were implemented, it still was over 1 billion square meters per year.

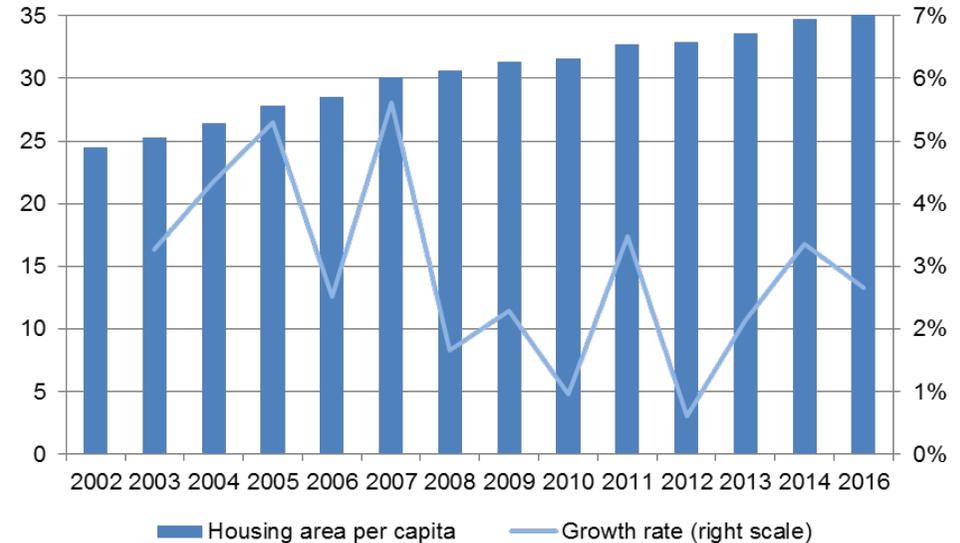
*Changes in construction area of new houses in urban areas*

(100 million m<sup>2</sup>)



*Changes in housing area per capita in urban areas*

(m<sup>2</sup> per capita)

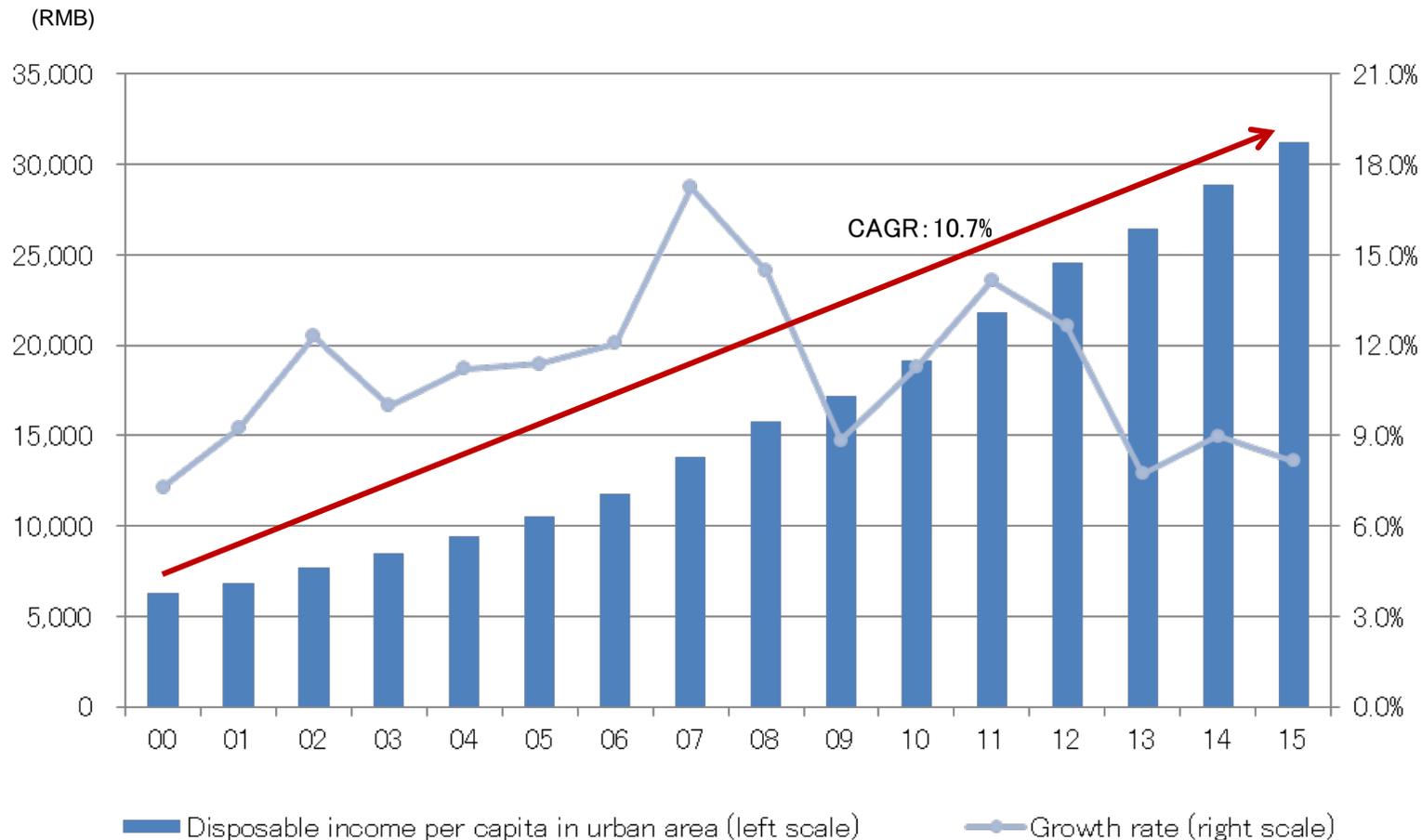


Note) Until 2012, public data from the National Bureau of Statistics is used , while the data of 2013 -2016 used is published by MOHURD

## China's Macroeconomic Environment: Consumption Trend

In the past 16 years, the per capita disposable income in urban areas increased at an average growth rate of more than 10% indicating a steady growth in China's urban Individual consumption ability.

*Disposable Income per Capita and Growth Rate in Urban Areas*

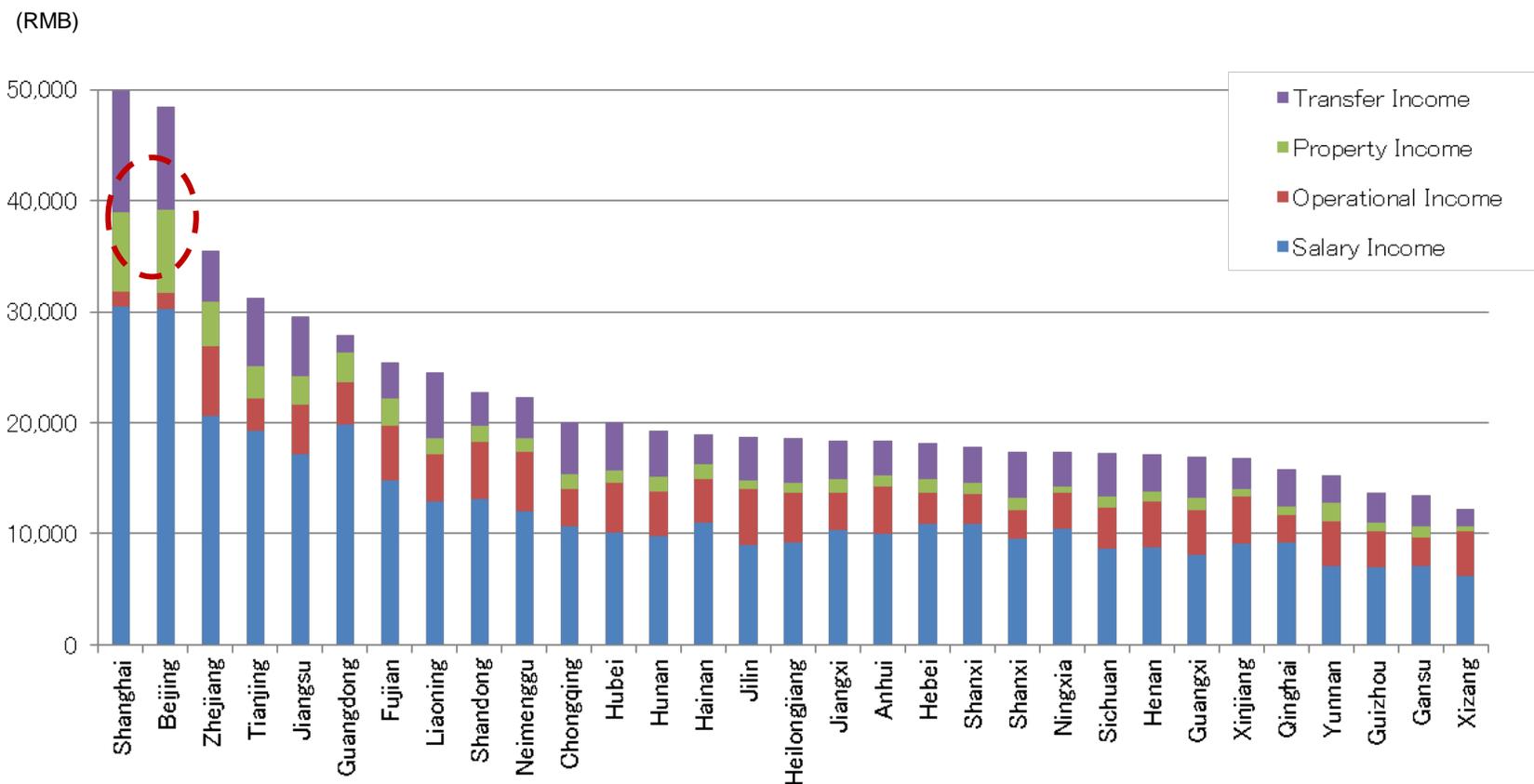


Source) National Bureau of Statistics of China

## China's Macroeconomic Environment: Consumption trend

Nationwide average 62% of household income per capita is due to salary income, and 17% is due to transfer income. The cities with high property revenues including real estate income are Beijing (15%), Shanghai (14%), Zhejiang (11%) and Yunnan (11%).

Source of annual household income per capita of urban population by region (2015)



Note: Salary income: wage income.

Business revenue: revenue from commercial buying and selling activities.

Asset income: revenue from moveables and real estate.

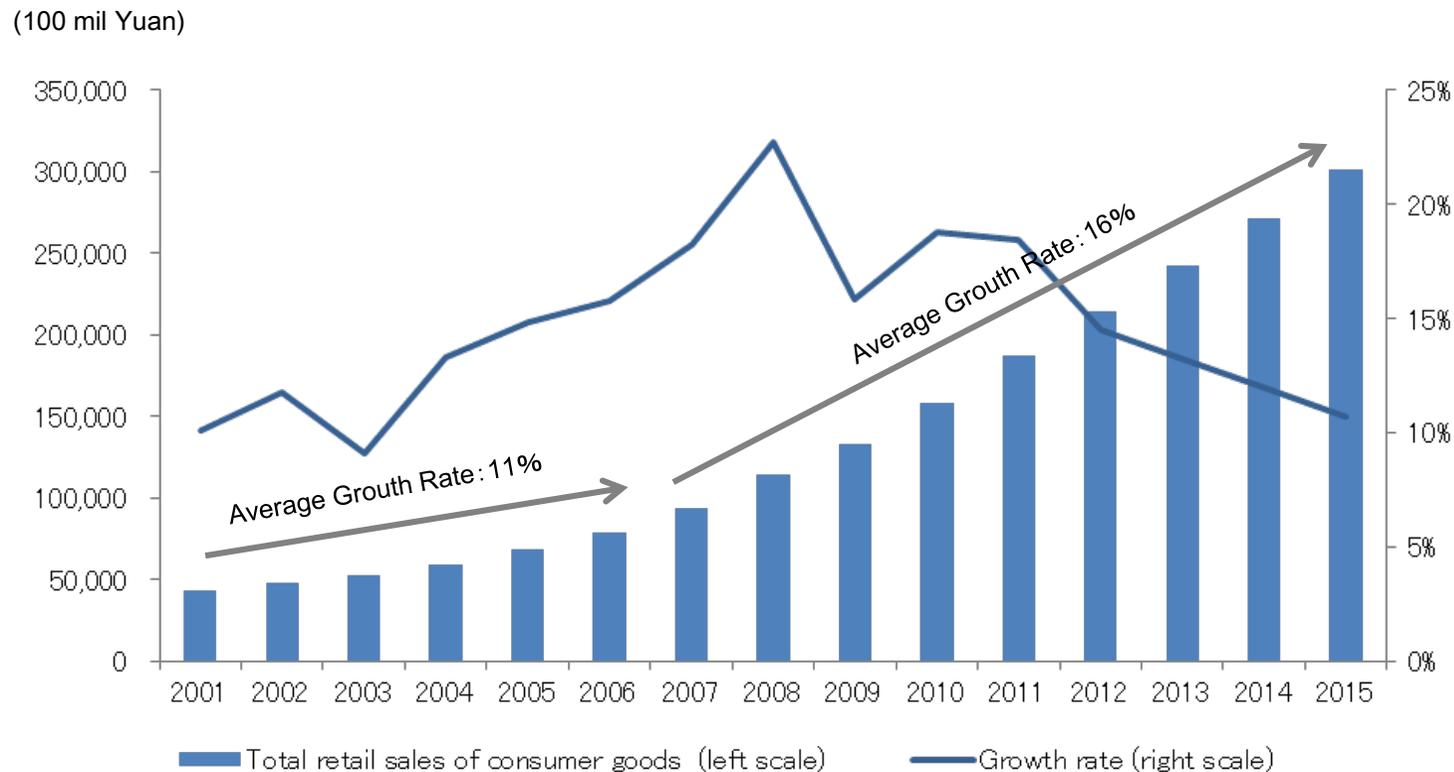
Transfer income: income from severance pay, pension etc.

Source: National Bureau of Statistics, China

## China's Macroeconomic Environment: Consumption trend

The total retail sales of social consumer goods in 2015 exceeded 30 billion yuan, which was 7.7 times as much as that of 2000. Especially since 2007 it increased at an annual growth rate of 16% per year and urged construction demand of commercial facilities.

Total Retail Sales of Consumer Goods and Its Growth Rate



Source: National Bureau of Statistics, China

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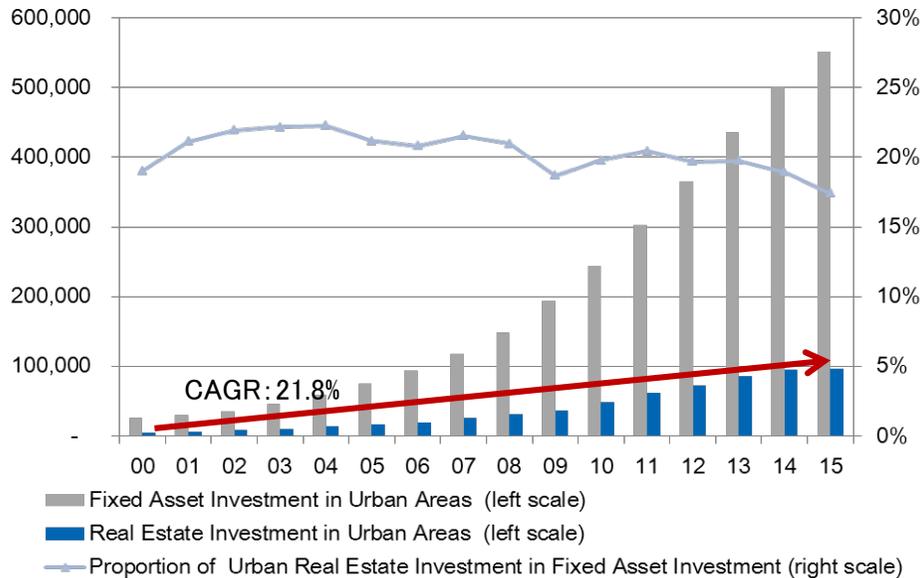
Movements of Chinese Real Estate Developers

## China's Real Estate Investment

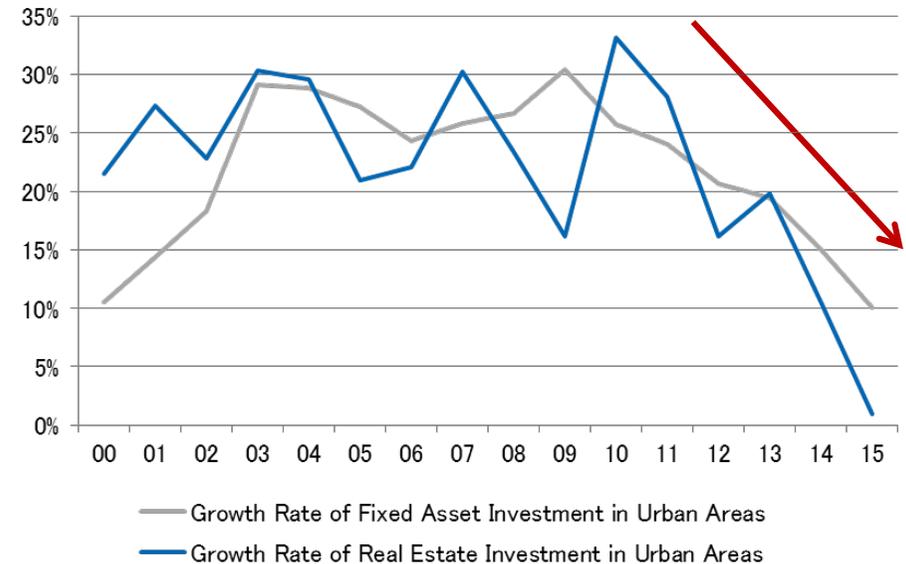
Real estate investment which shows about 20% of fixed asset investment in urban areas has expanded at a rate of 20% since 2000. However it has declined to a low level due to the recent slowdown in fixed assets growth.

*Changes of Fixed Asset Investment and Real Estate Investment in Urban Areas*

(100 mil Yuan)



*Growth Rate Comparison of Fixed Asset Investment and Real Estate Investment in Urban Areas*

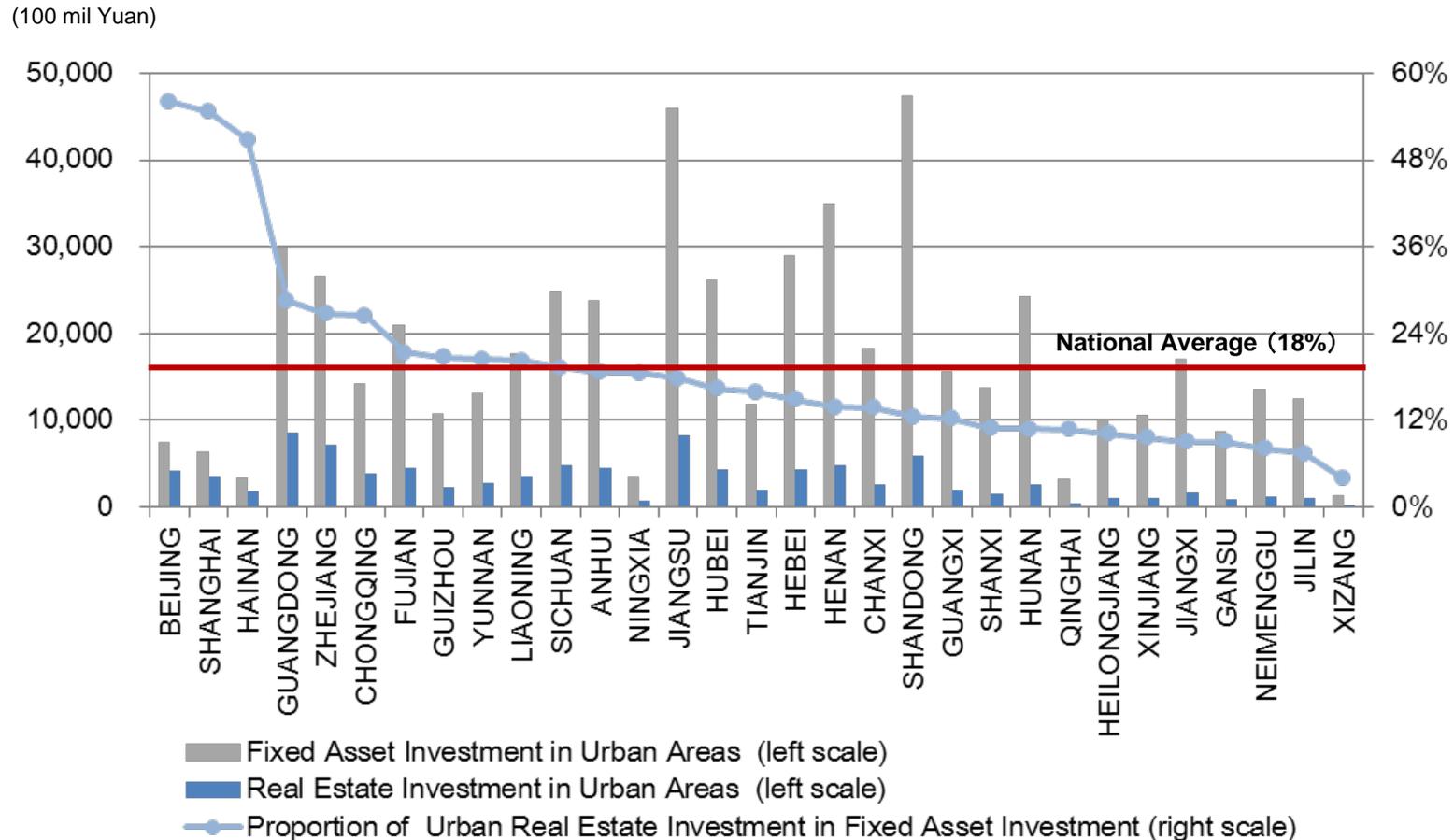


Source) National Bureau of Statistics of China

## China's Real Estate Investment

In the three areas of Beijing (56%), Shanghai (55%) and Hainan (51%), real estate investment in urban fixed asset investment is high. In proportion to other areas, the areas of less than 50% is more than 18% of nationwide average.

*The Ratio of Real Estate Investment in Urban Fixed Asset Investment by Region in 2015*

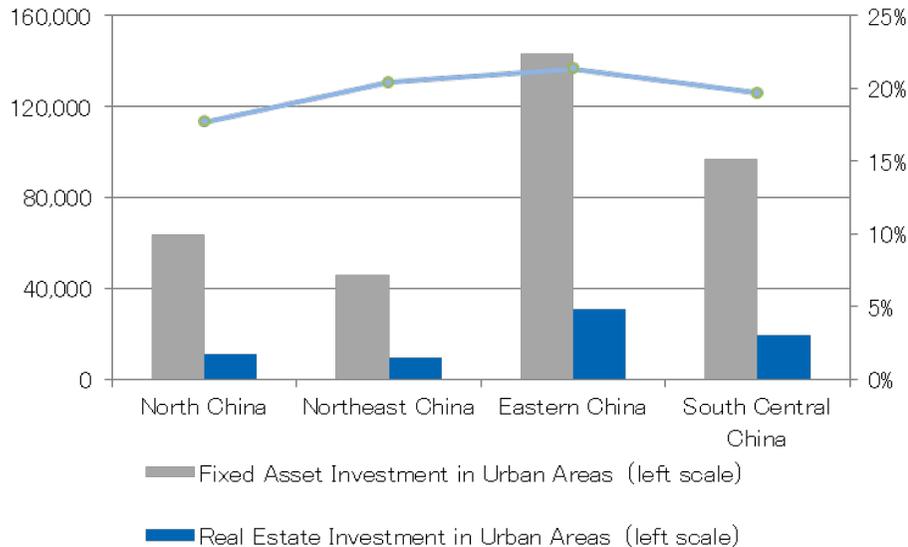


## China's Real Estate Investment

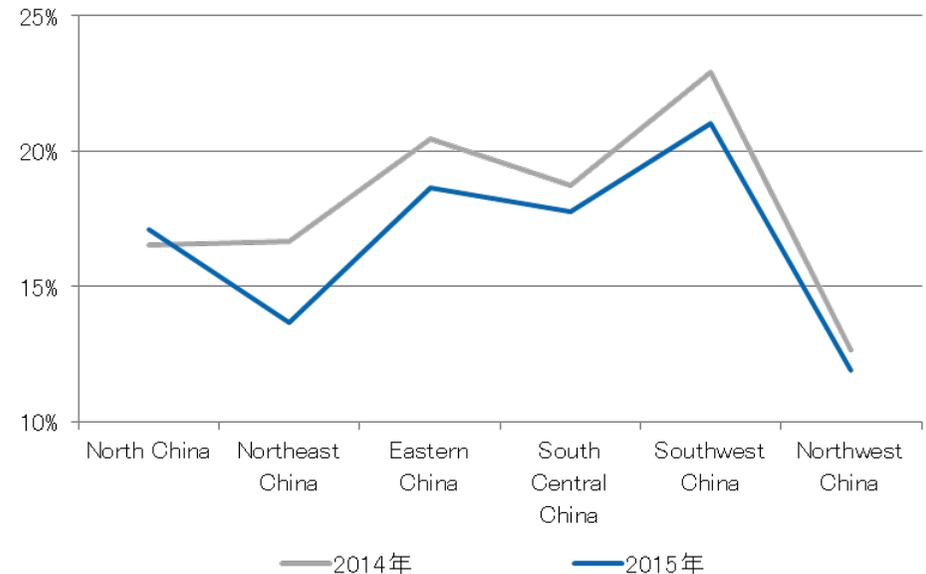
Regarding the ratio of real estate investment to fixed asset investment, all of the regions declined in 2015 compared to the previous year except for North China region. Real estate activities are still most active in the southwestern region.

Comparison of Fixed Asset Investment and Real Estate Investment by Region in 2015

(100 mil Yuan)



Overtime Comparison of Growth Rate of Proportion of Fixed Asset Investment and Real Estate Investment by Region (2014-2015)



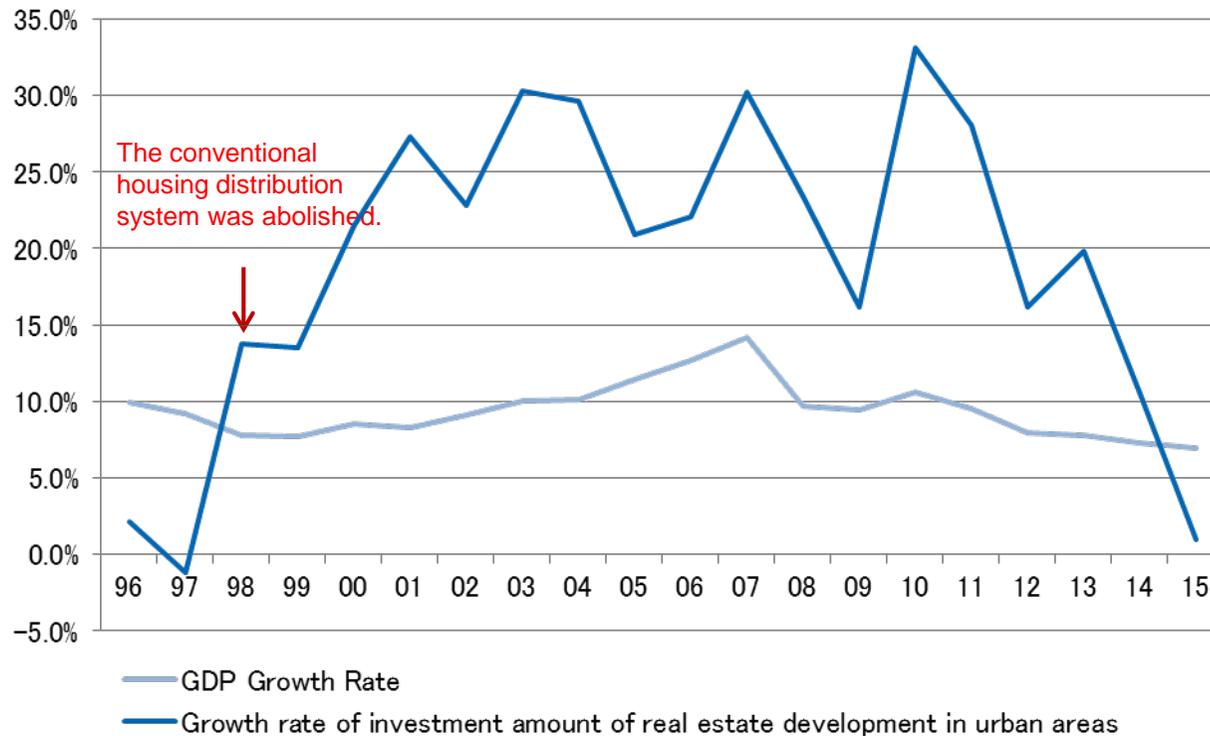
Note: North China: Beijing, Tianjin, Hebei, Shanxi, Neimenggu  
 Northeast China: Heilongjiang, Jilin, Liaoning  
 Eastern China: Shanghai, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Shandong  
 South Central China: Henan, Hubei, Hunan, Guangdong, Guangxi, Hainan  
 Southwest China: Sichuan, Guizhou, Yunnan, Xizang, Chongqing  
 Northwest China: Shanxi, Gansu, Qinghai, Ningxia, Xinjiang

Source) National Bureau of Statistics of China

## China's Real Estate Investment

Real estate investment in Urban China has been a major driving force in GDP growth so far. In recent years, the growth of GDP is slowing somewhat due to the slump in real estate investment.

*Change in Growth Rates of GDP and of Real Estate Investment*

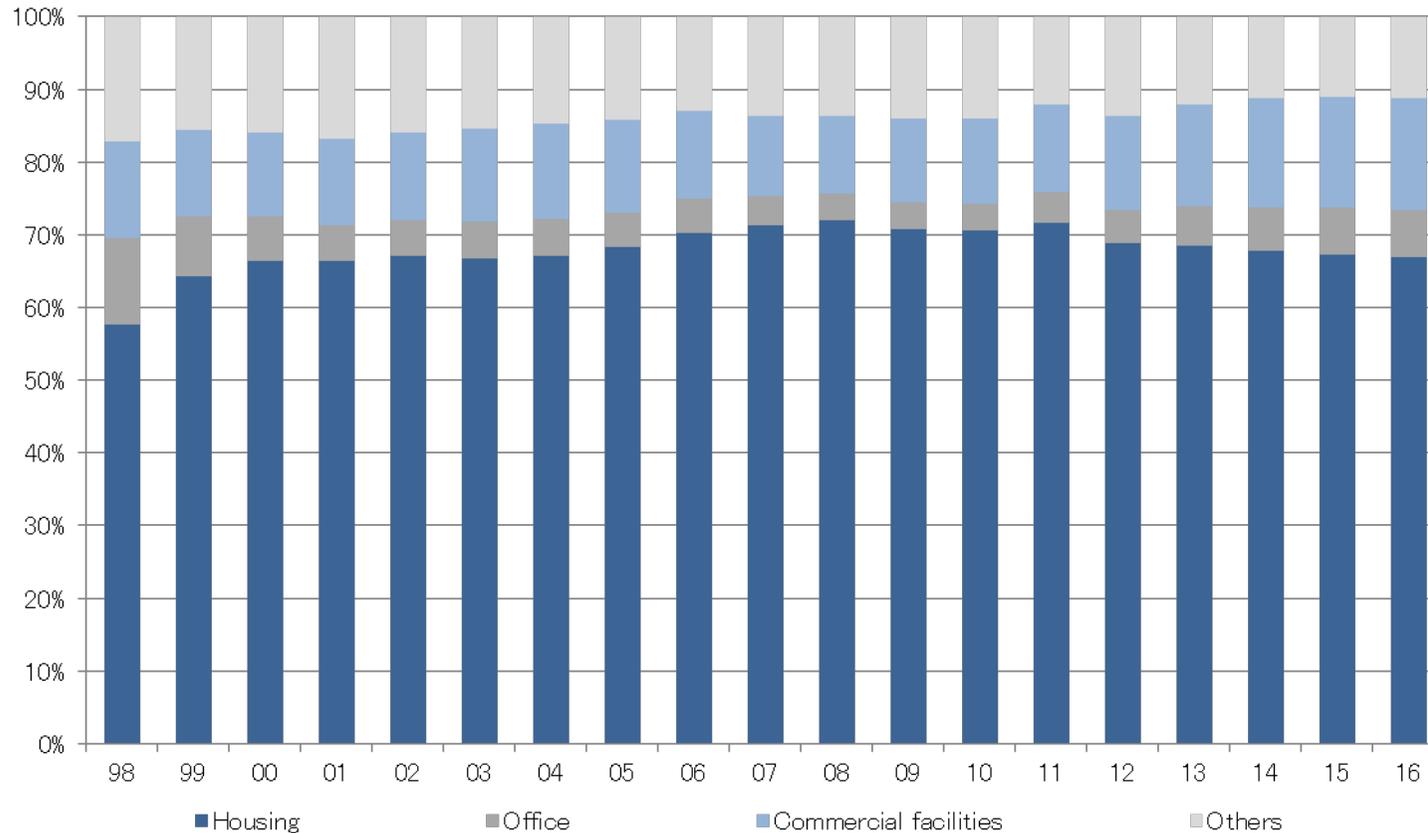


Source) National Bureau of Statistics of China

# China's Real Estate Investment

Even if the real estate investment value rises year by year, 2/3 of that is still housing investment.

*The Percentage of Housing/Commercial/Office Investments in Real Estate Investment (2016)*



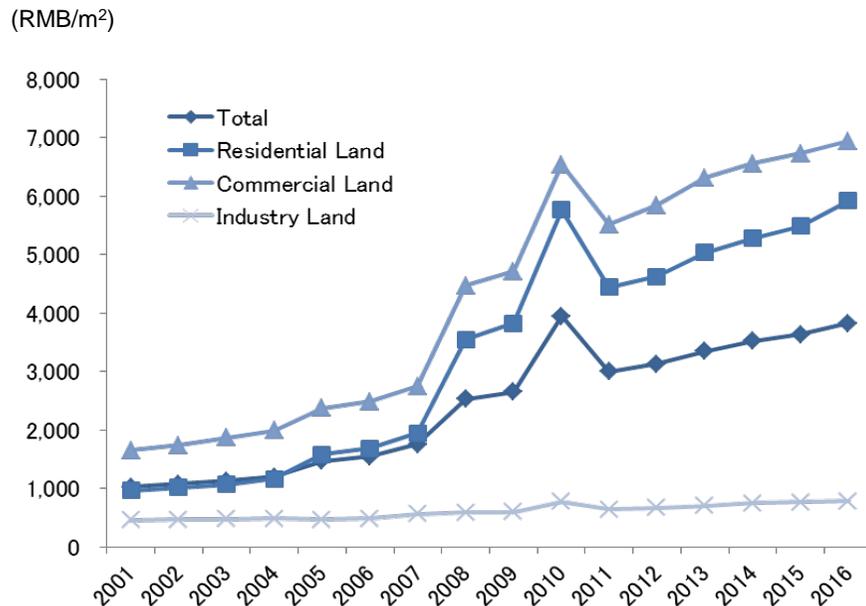
Source) National Bureau of Statistics of China

## Land Market in China

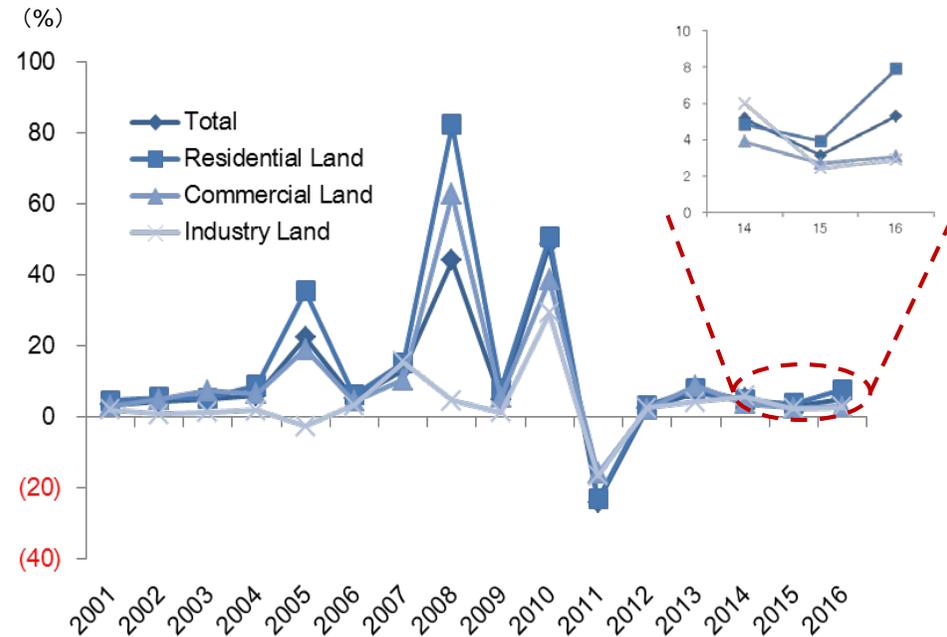
Land price temporarily declined in 2011 due to the influence of real estate market regulation, but after that it's turning again to an upward trend. It's particularly noteworthy that the increase rate of residential land prices was doubling in 2016 compared with the previous year.

- In urban areas of China, both commercial and residential land tend to be higher, and in terms of historical trends, prices of residential land and commercial land will rise at a pace that is significantly higher than the overall average. Land price is continuously increasing.
- While the land supply of urban areas is restricted by the government, intense bid auction between real estate development companies is also a factor that invariably leads to an increase in land prices.

Change in Land prices in urban areas of China



Change in Land price appreciation rates in urban areas of China



Source: China urban land price monitoring data

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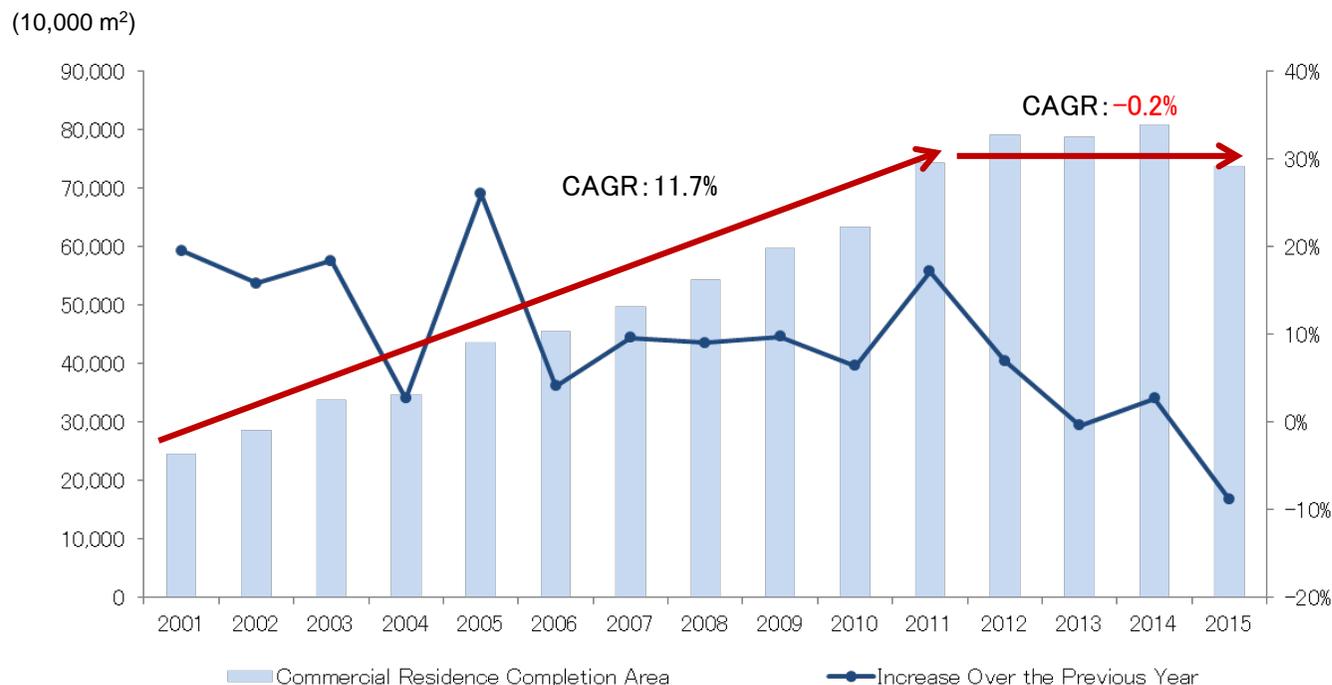
Movements of Chinese Real Estate Developers

## China's Residential Market

As the real estate market regulations were implemented in 2011, the growth rate of the supply quantity of commodity housing which is on an upward trend is slowing down and the deceleration of housing supply in urban areas will be strengthened.

- During the 10 years to 2011, there was a period in which the supply speed of commercial housing slowed down due to a tightening or adjustment of policy. Needs for housing, however, expanded, and the completed area was raised by a high average growth rate of 11.7%.
- As the real estate market regulations were implemented in 2011, the growth rate of the supply quantity of commodity housing which is on an upward trend is slowing down. The housing supply volume from 2014 to 2015 has been reduced by 10%. We can see that, the housing supply is decelerating.

*The area of commercial residences' completion in China*



Source: National Bureau of Statistics of China

## China's Residential Market

**In 2015, the supply of commodity housing in urban area of China is 750 thousand, which is equivalent to the scale of about 29 times of the sale of residential housing in Japan although it is 8% lower than the previous year.**

- In 2015 the number of new commodity houses completed in China is 7.55 million units, which is 29.3 times as large as the number of newly built houses launched in Japan in 24.1 units.

*The number of commercial residence completions and transition of its average completion area*

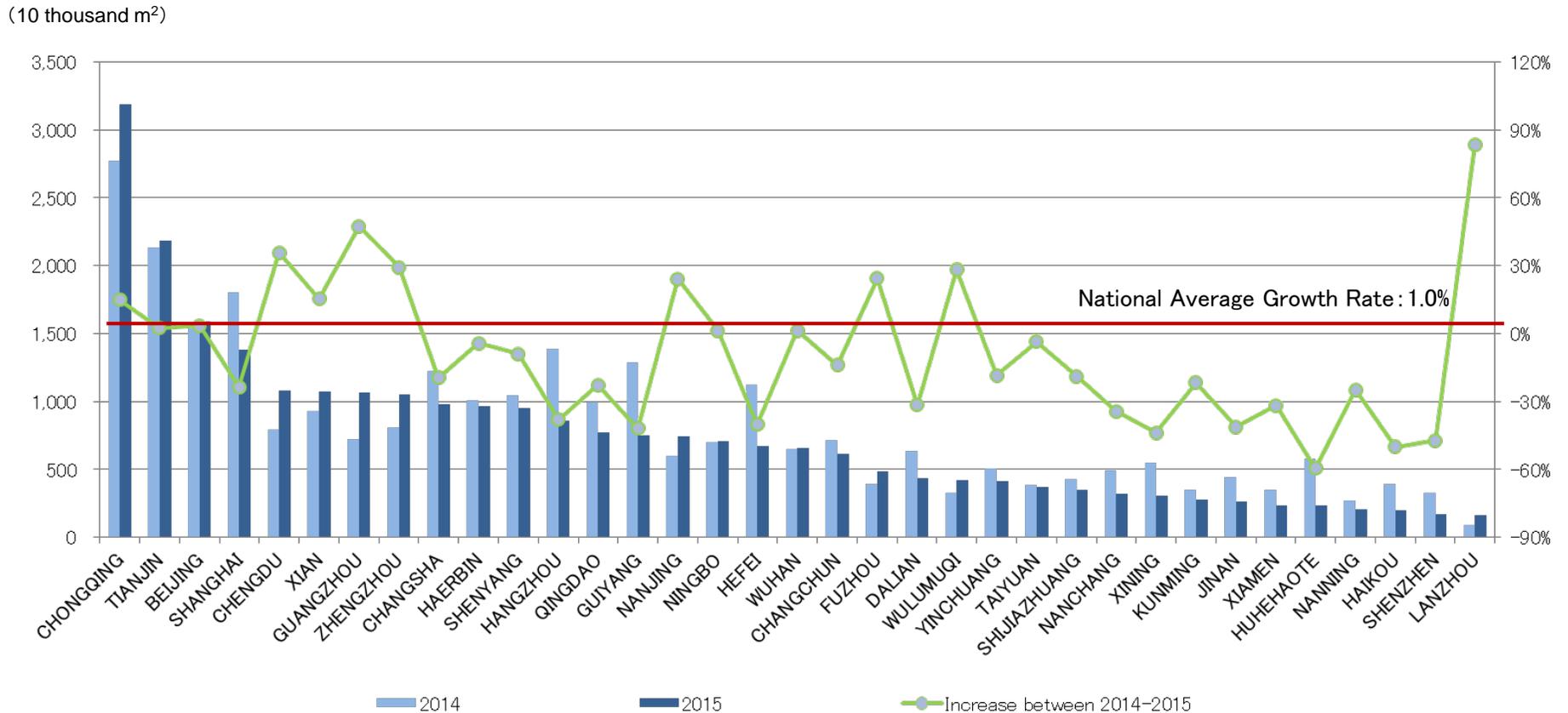


Source: National Bureau of Statistics of China

## Residential Market in China

Approximately 30% of the housing construction area is concentrated in the four municipalities of Chongqing, Tianjin, Beijing and Shanghai. Construction area decreased more than 60% of cities from the previous year. Growth of regional cities such as Lanzhou, Nanjing and Guiyang attracts particular attention.

Comparison of Areas of Completed Residential Properties among Major Cities

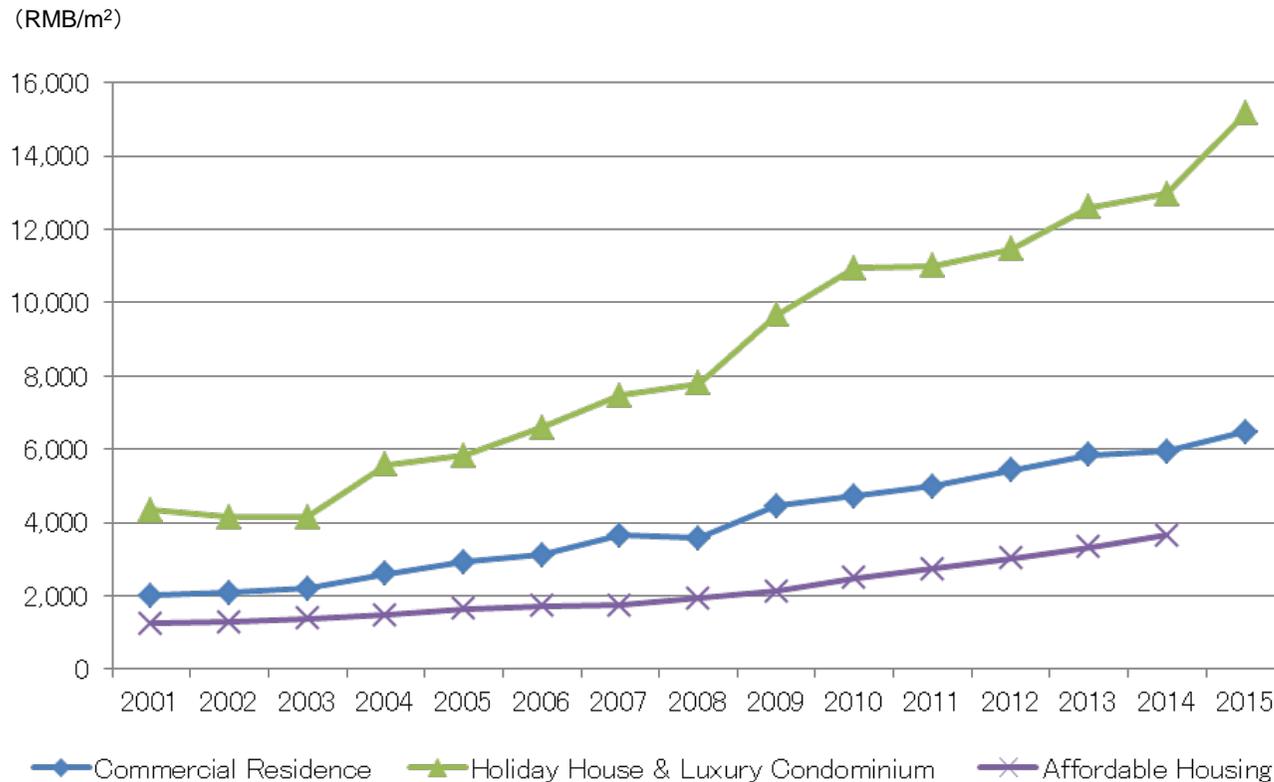


Source) National Bureau of Statistics of China

## China's Residential Market

The selling price of commercial residences has risen by 3.2 times during the last 15 years, with this trend being especially evident among luxury properties.

*Selling price of commercial residences in China*



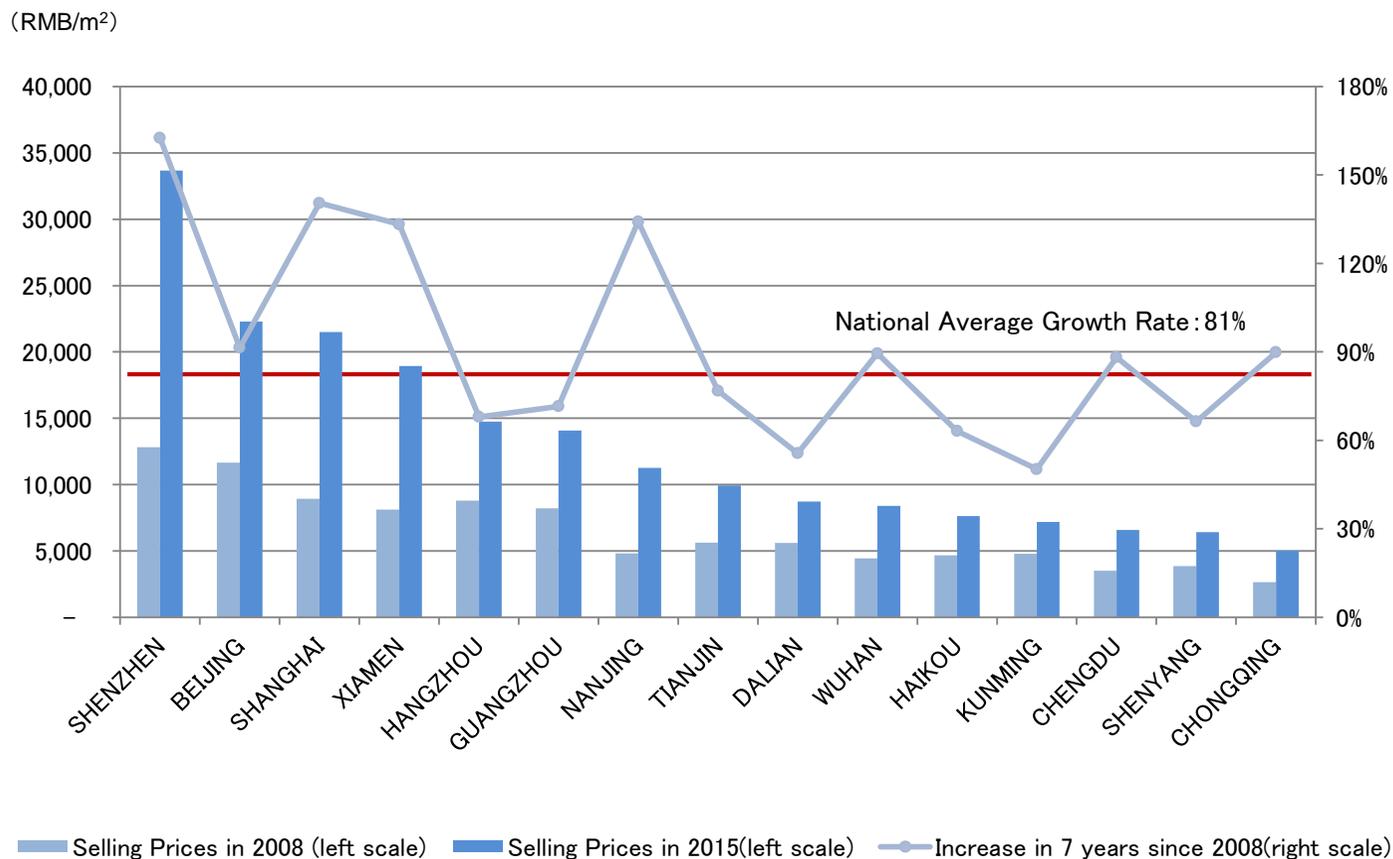
Note) Since sales prices of the economical housing for low-and-middle income earners in 2011 were not reported in the China Statistical Yearbook 2012, the data here was calculated on the basis of data in 2010 by CAGR at 110%.

Source) National Bureau of Statistics of China

## China's Residential Market

Sale price of residential properties has risen by more than 80% in the last 7 years. Shenzhen, Shanghai, Nanjing and Xiamen each have a price increase of 1.3 times or more.

Sale Price of Commercial Housing in Major Cities (Comparison between 2008 and 2015)



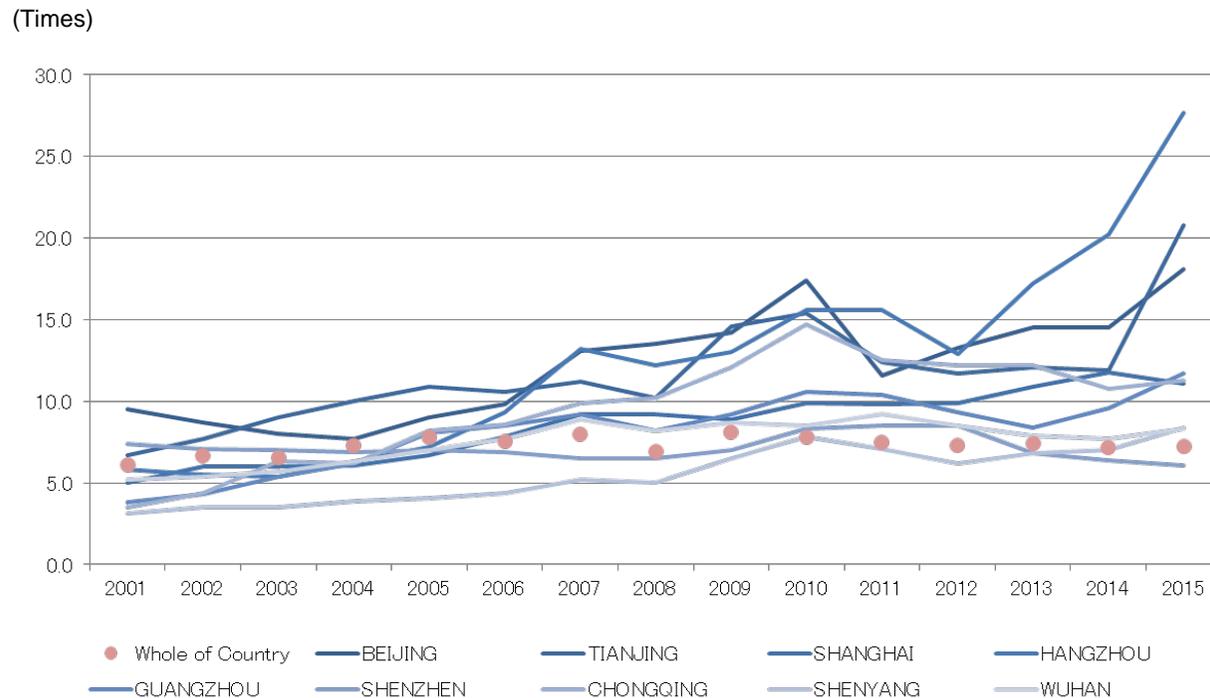
Source) National Bureau of Statistics of China

## China's Residential Market

With respect to the annual income ratio of house price, Shenzhen is the highest at 28 times followed by Shanghai (21 times), Beijing (18 times), and magnifications tend to expand from the previous year in addition to Guangzhou and Shenyang.

- For the past 15 years, the annual income ratio of house price in China has changed to about seven times, but there was not much change.
- Shenzhen, Shanghai and Beijing are particularly fluctuating. Especially in Shenzhen, the house price annual income ratio of this 15 years rises nearly five times, and it becomes the city which is the most difficult to obtain housing in China.

### *The housing selling prices to income ratio*



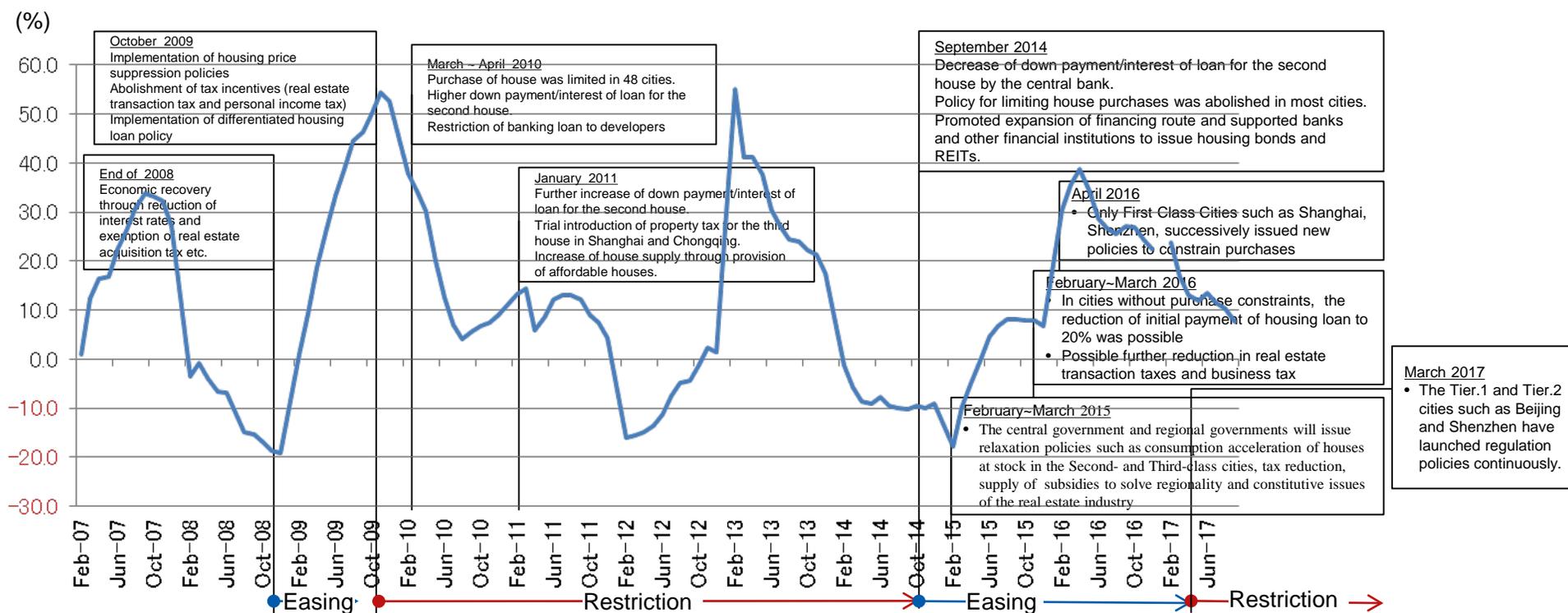
Source: Statistical material by the Ministry of Land and Resources and the National Bureau of Statistics

## House supply policy of China

Although the policy implemented by the government from 2009 had some effects in reducing housing prices, it could never stop the housing price rise and housing acquisition difficulties.

- Monetary easing policies were implemented after the Lehman shock resulted in skyrocketing housing prices in Beijing, Shanghai, and other major cities in China. As a countermeasure, the Chinese government implemented a series of policies that made it more difficult for the acquisition of houses after October 2009.
- Although house price fluctuations were affected by political tightening and repetition of mitigation and others, it was never stopped to raise housing prices especially in large cities while rather acquiring houses became increasingly difficult.

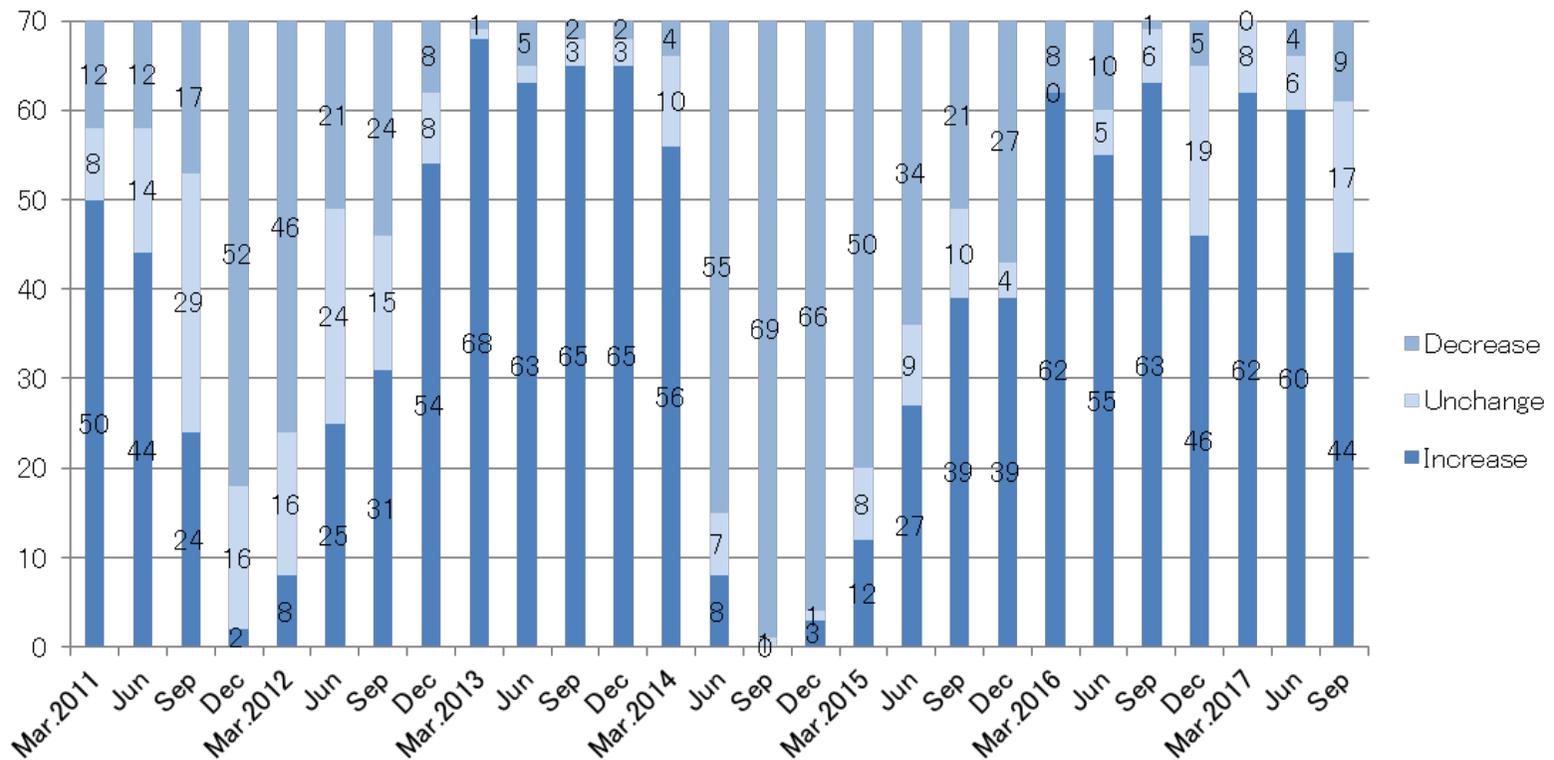
Monthly sales price of commercial housing compared with that of the same month in the previous year (after 2007)



## Government Housing Policy in China

China's housing market has been spurred as a vicious circle like "if policy loosens, it'll be overheating. If policy ties down, it'll cool down" and it has been supported by high demand, so the price rise is expected to continue focusing on 70 cities around the future.

*The change of cities' number with the housing price's deviation at the link relative ratio in the 70 major cities of China (2011-2017.9)*



Source) National Bureau of Statistics of China

## Government Housing Policy in China

**In July, 2017, the government announced the latest policy about the development acceleration of the lease house market targeting at the large and medium-sized cities where lack lease house seriously.**

- There is a large population to flow into the large and medium-sized cities every year in China. The actuality is that, the absolutely needed quantity of the leasehold property is insufficient.
  - The floating population in 2016 of China reaches 245 million. In addition, the annual new college graduates are about 7 million people.
- According to the rental market research report published by Lianjia Research Institute of a large real estate intermediary company, focusing on Beijing, Shanghai, Shenzhen, Guangzhou, the floating population in Tier.1 cities will account for more than 40% of the overall population in the future.
- In order to solve the new housing problem of the citizens in large and medium cities, in July 2017, China's Ministry of Housing and Urban-Rural Development, the National Development and Reform Commission and other nine departments jointly issued the "Notification of accelerated development of housing rental market in large and medium-sized cities with a net population inflow ". (Hereinafter referred to briefly as “notification”)
- According to the notification, in the large and medium cities with a net population inflow, there're some problems with "insufficient total rental housing, market disorder, imperfect of payment support system", and introduced relevant policies to speed up the construction of rental housing and rental housing market cultivation and development.

### **The extracts of "Notification of accelerated development of housing rental market in large and medium-sized cities with a net population inflow " ( publication with July 26, 2017 )**

- Promote more specialized and large-scale enterprises engaged in leasing residential enterprises
- Establish a government property rental housing transaction service platform
- Expand the supply of rental housing
- Renewal of rental housing management and service system



### **The extracts of "the model plan of utilizing a group construction site to build the lease house"(publication with August 28, 2017)**

- China's Ministry of Housing and Urban-Rural Development and other developments selected Beijing, Shanghai, Shenyang, Nanjing, Hangzhou, Hefei, Xiamen, Zhengzhou, Wuhan, Guangzhou, Foshan, Zhaoqing, Chengdu and other 13 cities as pilot cities for the development of rental housing policy.

Source: made by NRI based on public information

## Prospects of China's residential market

In 2018, the characteristics of residential market in China are as below. The rental housing market in the Tier.1 cities and Tier.2 cities is on the rise, and the supply scale of the medium and large housing has expanded.

### Directions of China's residential market in 2018

1

- The contradiction between the inflow of new population and the unaffordable housing in large and medium-sized cities has widened.

Increase the supply of rental housing in Tier.1 and Tier.2 cities with significant population inflow.

2

- The new housing requirements spawned by “two-child policy” and the maintenance demand to child care-related service.

The demand for large and medium sized housing that value child-rearing and related service enrichment is expanding.

3

- The diversification of residential demand in Tier.1 cities and Tier.2 cities is coexistent with high housing price.

Strong Tier.1 and Tier.2 cities have boosted the residential market in Tier.3 and Tier.4 cities.

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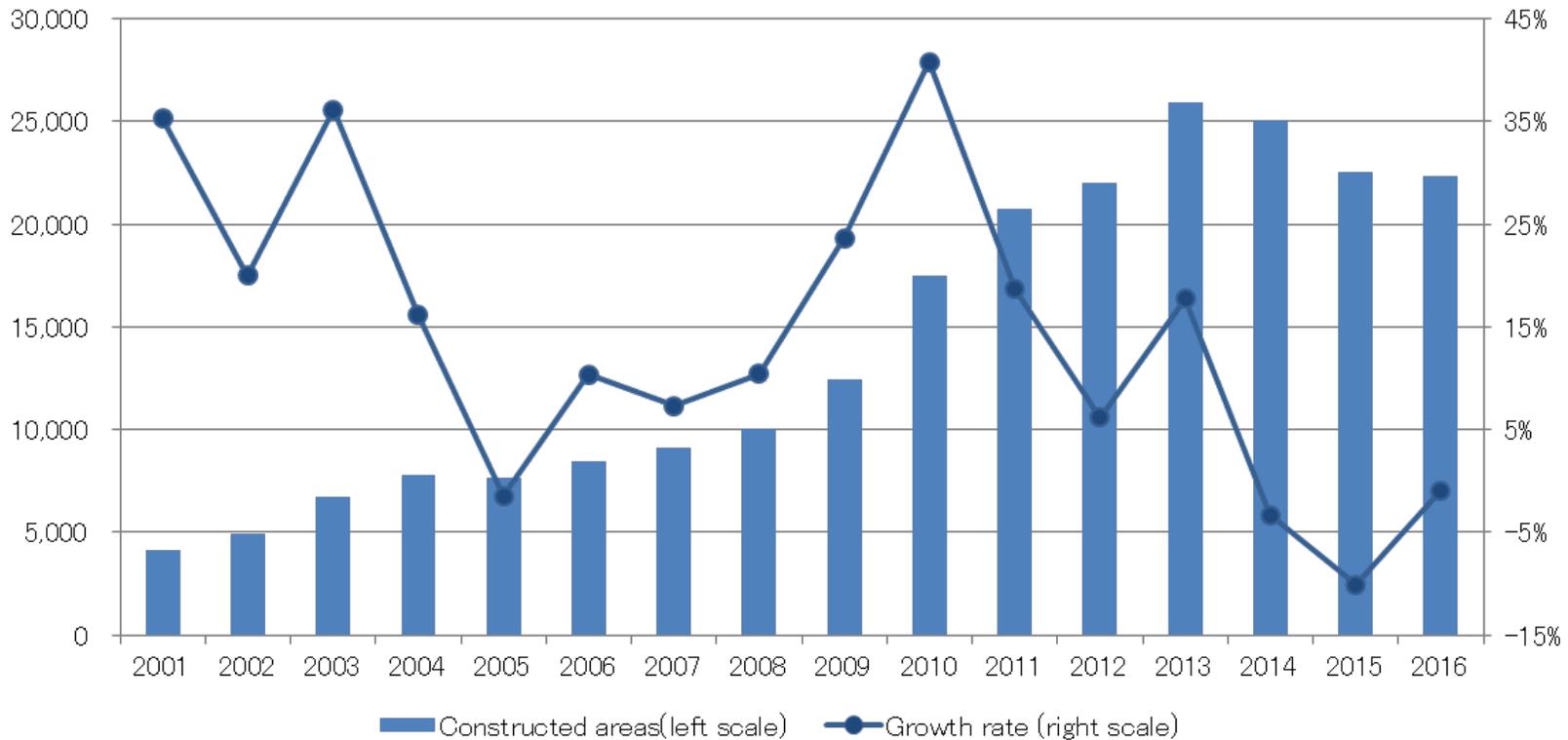
Movements of Chinese Real Estate Developers

## China's Commercial Real Estate Market :Commercial Facility

As a result of the slowdown in consumption growth and the impact of e-commerce, the supply of commercial facilities has been gradually decreasing in the years since 2013.

*Change in Nationwide Commercial Facilities Supply*

(10 thousand m<sup>2</sup>)

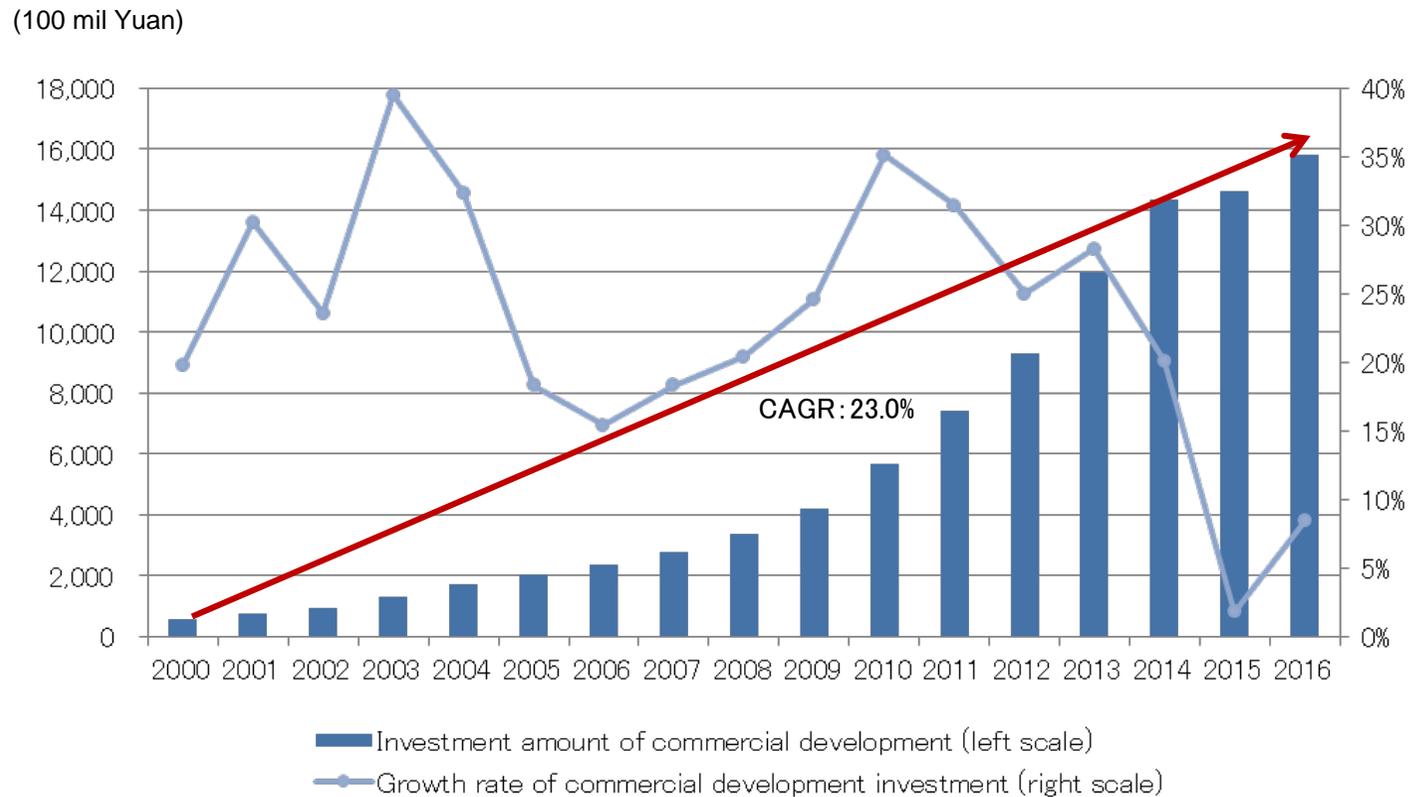


Source) National Bureau of Statistics of China

## China's Commercial Real Estate Market: Commercial Facility

Investment in commercial facilities has been steadily increasing at an average annual rate of 26% by 2014, but significant investment continued to decelerate after that.

*Change in Investment Amount and Growth Rate of Commercial Facilities*

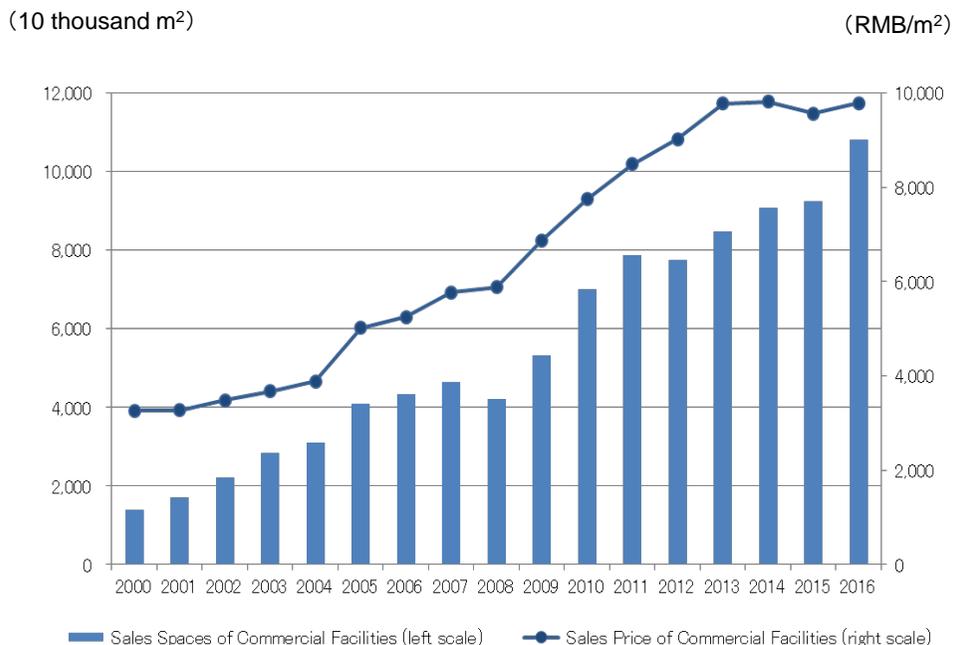


Source) National Bureau of Statistics of China

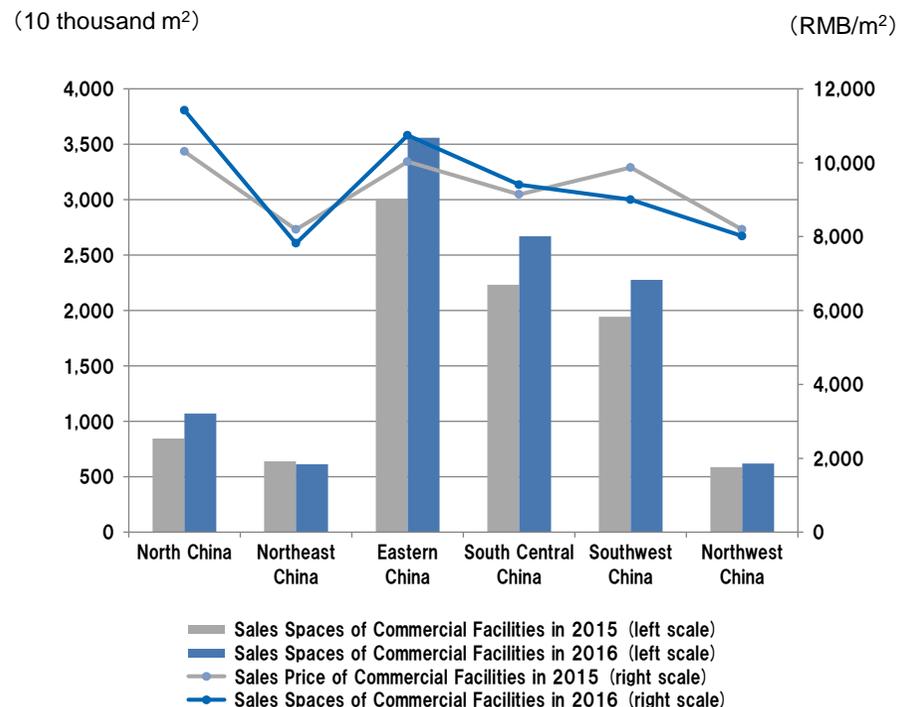
## China's Commercial Real Estate Market: Commercial Facility

The average sale price of commercial facilities has recovered slightly in the past two years, and has increased in north China and eastern China, and has decreased in south China.

*Changes in Sales Spaces/Unit Sales Price of Commercial Facilities in China*



*The sale areas and sale price of commercial facilities in each region(2015 and 2016)*



Note: North China: Beijing, Tianjin, Hebei, Shanxi, Neimenggu  
 Northeast China: Heilongjiang, Jilin, Liaoning  
 Eastern China: Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Anhui, Jiangxi  
 South Central China: Guangdong, Hainan, Henan, Hubei, Hunan, Guangxi  
 Southwest China: Sichuan, Guizhou, Yunnan, Xizang, Chongqing  
 Northwest China: Shanxi, Gansu, Qinghai, Ningxia, Xinjiang

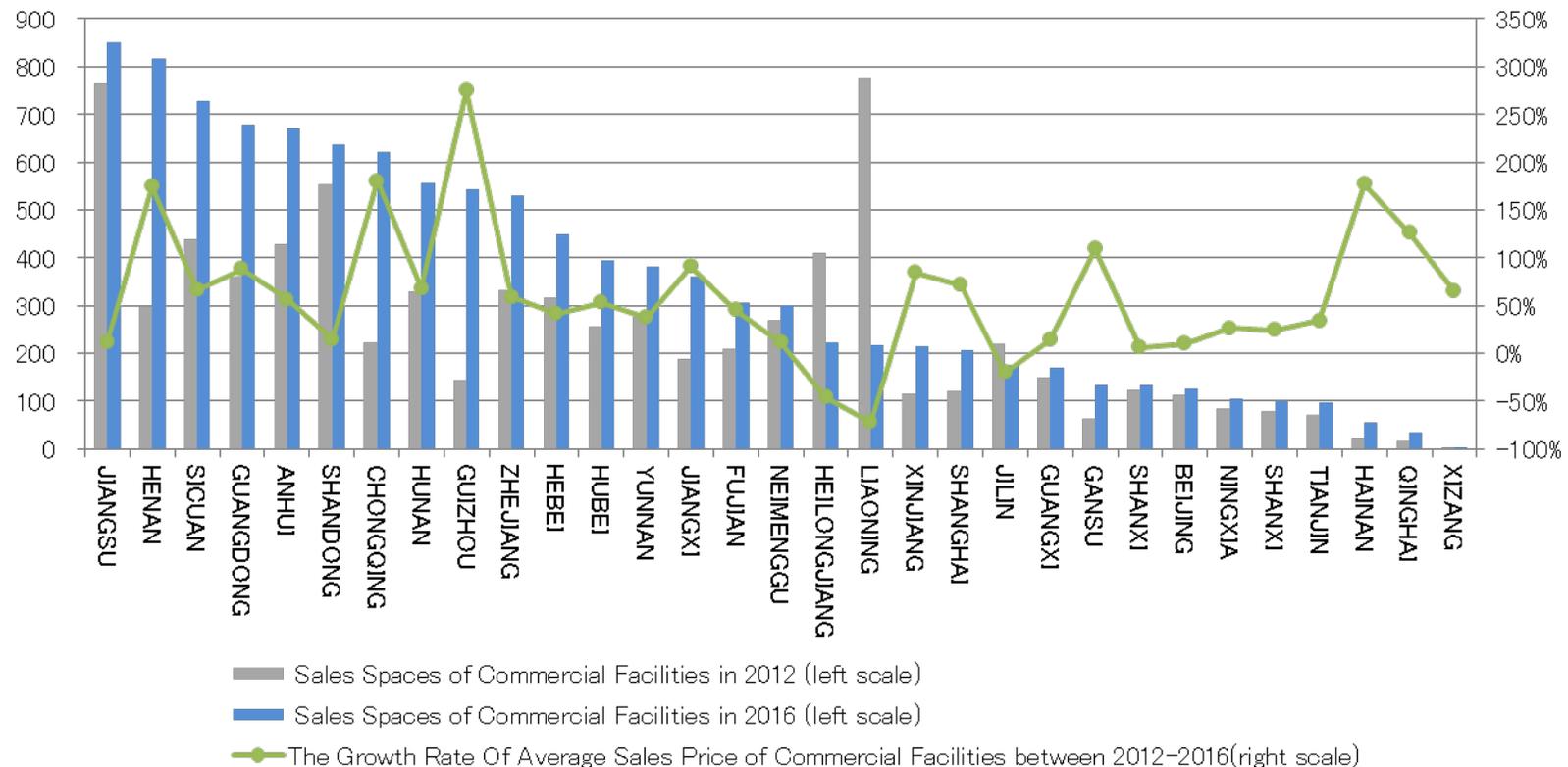
Source: China Statistical Yearbook

## China's Commercial Real Estate Market: Commercial Facility

Sales of commercial facilities in Guizhou, Chongqing, Hainan, Henan and Gansu have all doubled in the last five years. By contrast, sales in the three northeastern provinces (Liaoning, Heilongjiang, and Jilin) have declined significantly.

Comparison of Sales Spaces of Commercial Facilities by Region

(10 thousand m<sup>2</sup>)

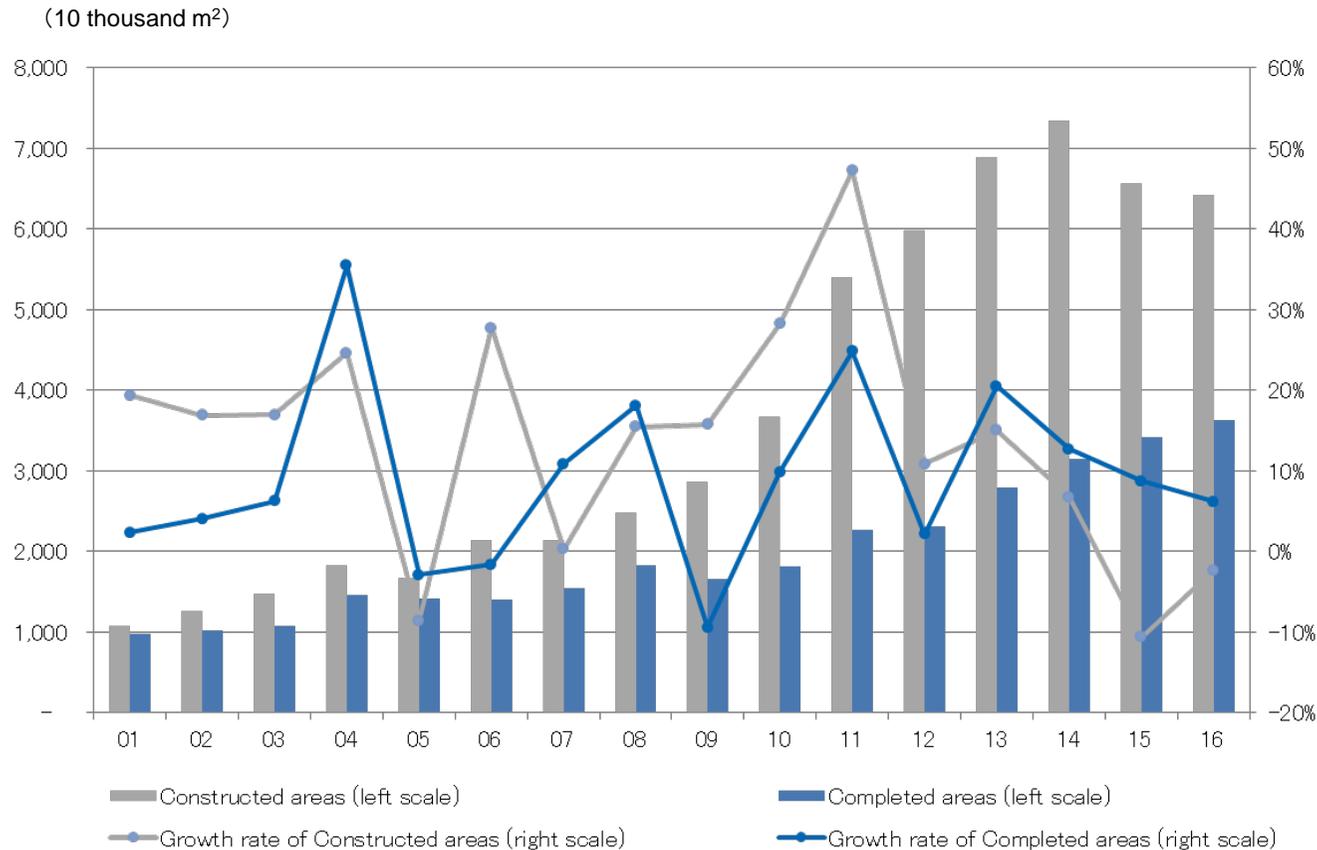


Source: China Statistical Yearbook

## China's Commercial Real Estate Market: Office

Office supply in urban areas in China has experienced a downturn after the Lehman Brothers' failure in 2008; however, a growing trend with a low completion rate continues as a whole.

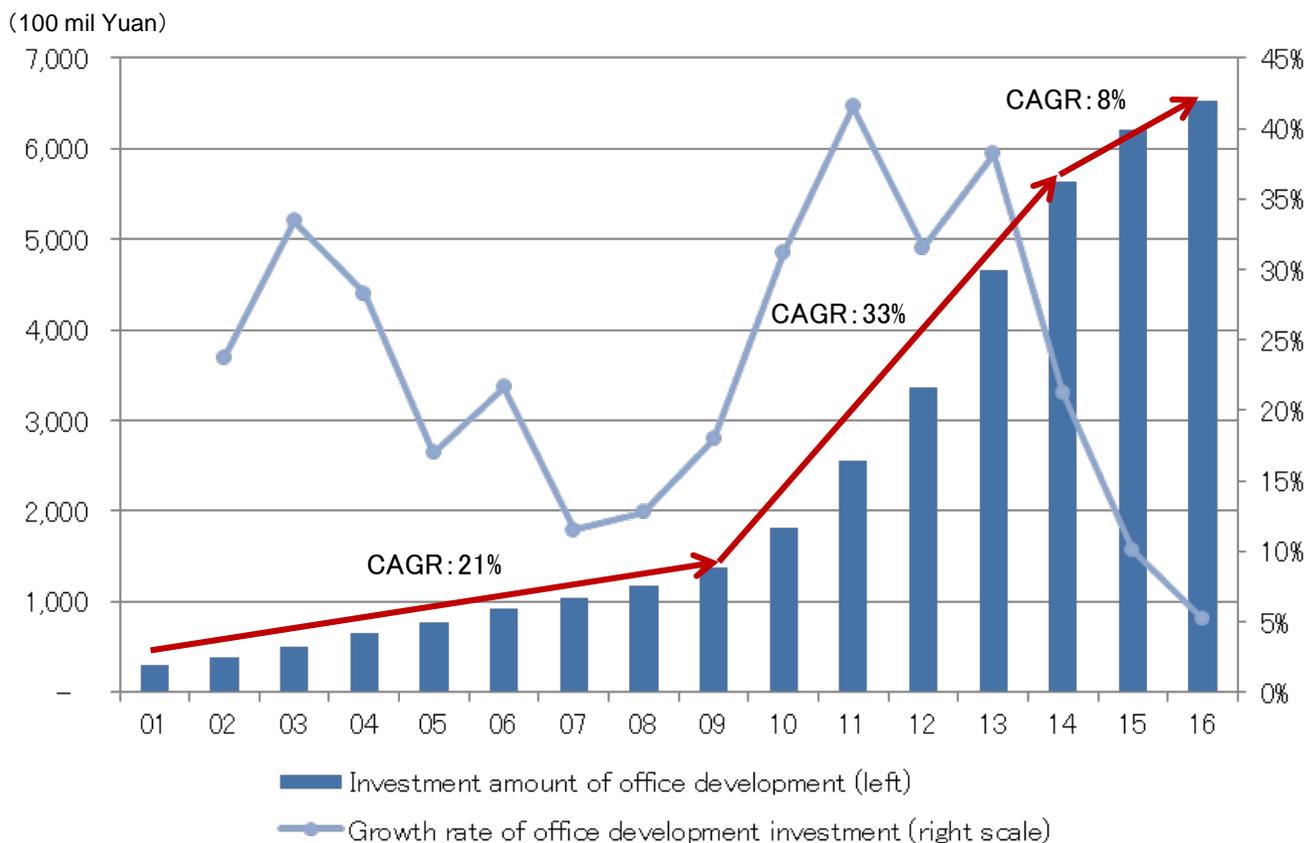
*Change in Nationwide Office Supply*



## China's Commercial Real Estate Market: Office

By 2014, due to the rapid increase in investment in the office market, the construction of office buildings also welcomed Immediate peach. And in the last three years, as investment growth has slowed, the office market has regained its stability.

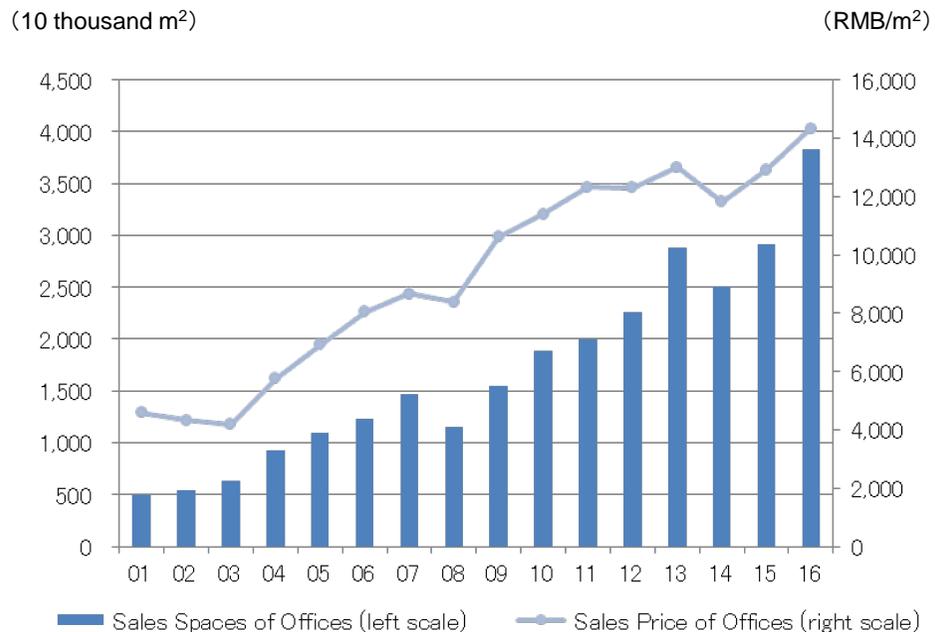
Changes in Investment Amount/ Growth Rate of Office Development



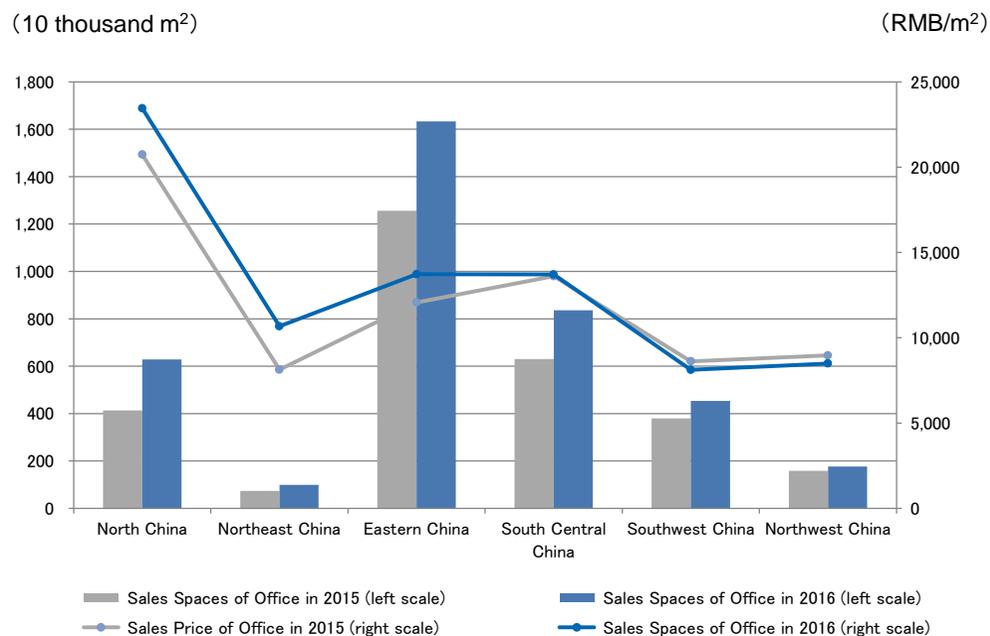
## China's Commercial Real Estate Market: Office

More than 40% of office sales are concentrated in eastern China. In the last two years, the sales volume has increased by more than 30%, which is concentrated in east China and north China, and the unit price has been increasing again.

Changes in Sales Spaces/Unit Sales Price of Offices in China



Sales Spaces/Unit Sales Price of Offices by Area (2014 and 2015)



Note: North China: Beijing, Tianjin, Hebei, Shanxi, Neimenggu  
 Northeast China: Heilongjiang, Jilin, Liaoning  
 Eastern China: Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Anhui, Jiangxi  
 South Central China: Guangdong, Hainan, Henan, Hubei, Hunan, Guangxi  
 Southwest China: Sichuan, Guizhou, Yunnan, Xizang, Chongqing  
 Northwest China: Shanxi, Gansu, Qinghai, Ningxia, Xinjiang

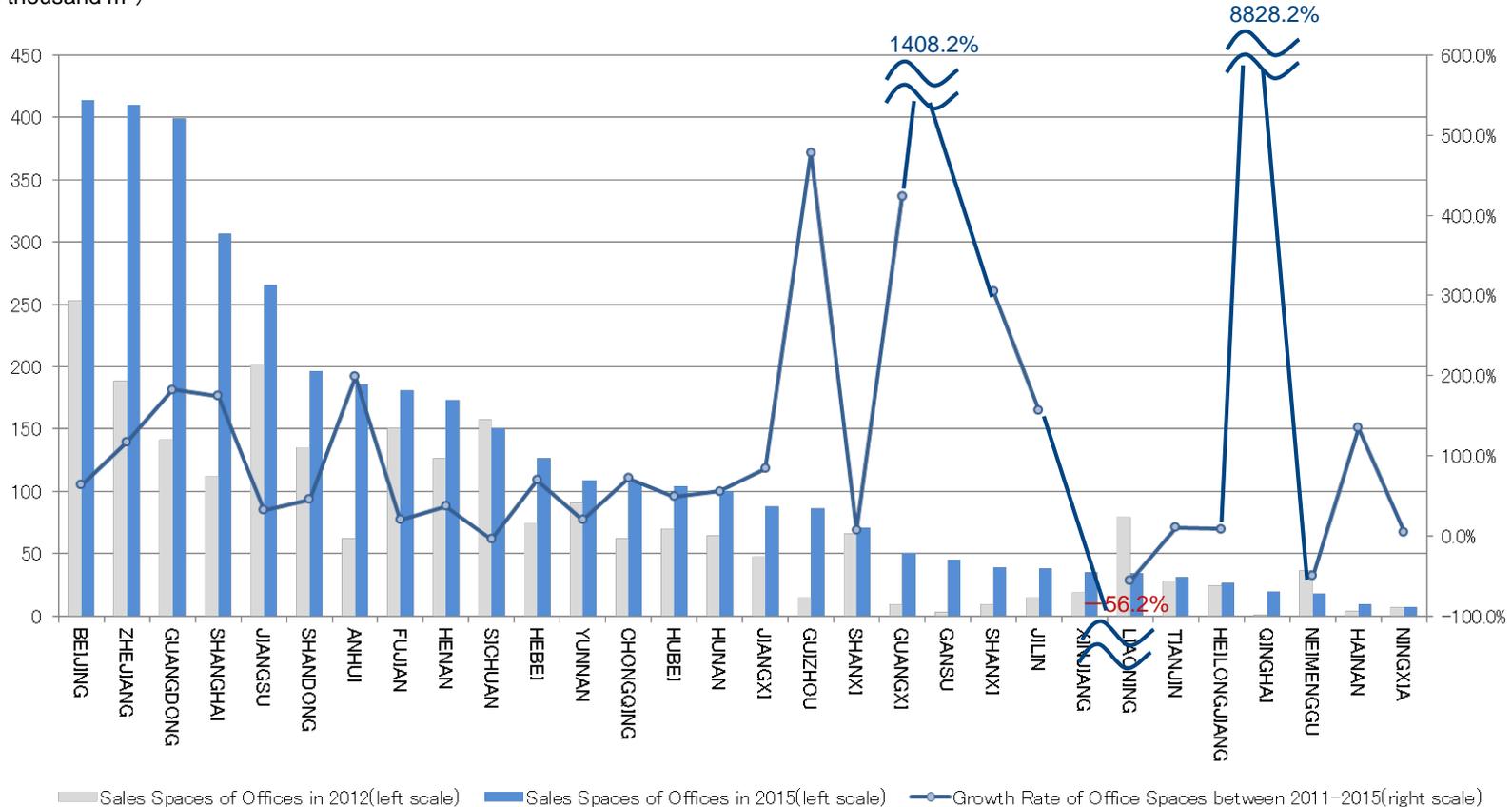
Source: China Statistical Yearbook

## China's Commercial Real Estate Market: Office

In the last five years, sales of office buildings in Shandong, Xinjiang, Guizhou and Chongqing have been extremely brisk. In contrast, Liaoning and Tianjin saw a significant reduction in sales volume.

Comparison of Office Sales Spaces by Region

(10 thousand m<sup>2</sup>)



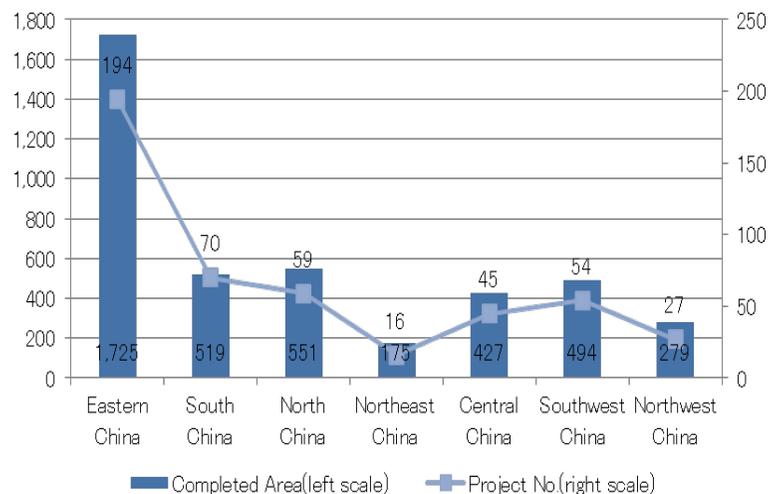
## China's commercial real estate market: tendency of shopping center.

In recent years, the opening area of shopping center in eastern China has been in the first place, but it has shown a deceleration trend. On the other hand, central China is more in Tier.2 cities and inland cities, where the development of shopping centers is booming.

- In 2016, the number of newly opened large-scale shopping centers in China was 465, which have a total development area of 43,193,500m<sup>2</sup>, increasing by 32.1% compared to 2015.
- In 2016, the area with the most new openings was east China, followed by north China and south China. Compared with the slowdown in central China, the development of the southwest region has attracted considerable attention.
- The opening area of the first-class city accounts for about 15% of the total, and the new first-class city with remarkable growth accounts for 25% of the total. Small scale projects of less than 200000 m<sup>2</sup> are mainstream.

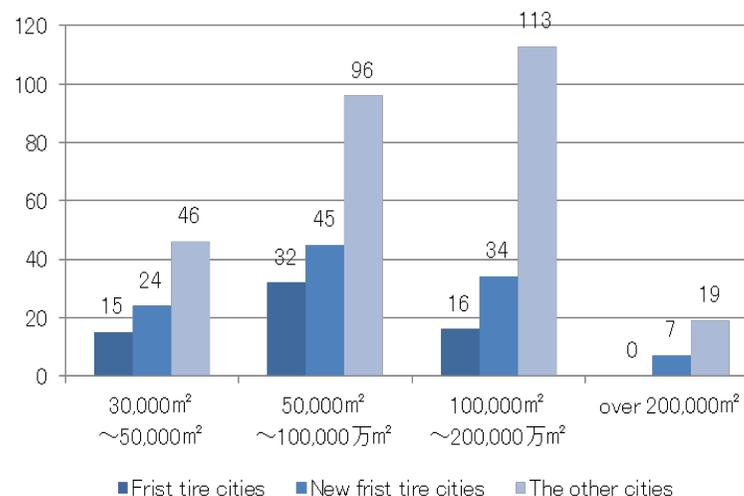
The area and quantity of new opening shopping centers in 2016

(10 thousand m<sup>2</sup>)



Number of new start-up shopping centers by size in 2016

(10 thousand m<sup>2</sup>)



Note) The shopping center here is counted only for large projects over 30000 m<sup>2</sup>

Note) First-class cities refer to the four cities of Beijing, Shanghai, Guangzhou and Shenzhen. New first class cities refer to the 15 cities of Chengdu, Hangzhou, Wuhan, Tianjin, Nanjing, Chongqing, Xi'an, Changsha, Qingdao, Shenyang, Dalian, Xiamen, Suzhou, Ningbo and Wuxi.

In 2018, the commercial real estate market in China needs to build a construction facility and operation management system that adapts to the present era and citizen's consumption behavior.

### Directions of China's real estate market in 2018

1

- Update needs of existing traditional commercial business; Differentiation development needs during commercial setting; Compounding construction needs in commercial development delayed region

Modification of existing commerce centered on Tier.1 and Tier.2 cities, new construction of Lifestyle-based small-scale specialty commerce and construction of a large complex commercial centering on Tier.3 and Tier.4 cities.

2

- Activation of everyday consumer behavior relying on online more and more in the Tier.1 and Tier.2 cities

Establishment of a new commercial business model including the introduction of online-offline business model and examination of operations management system accordingly.

3

- Lack of a convenient community of nearby commercials that can adapt to today's era and citizens life

Construction of a living-oriented neighborhood commerce tackling many business styles such as childcare and senior services

## China

The market has been cooling down after market business uptrend peak has passed.

1 Macro Economy and Real Estate Investment

2 Real Estate Investment

3 Residential Market

4 Commercial Development and Office Market

5 Movements of Chinese Real Estate Developers

## Movements of Chinese Real Estate Developers

In 2016, the top 10 companies were the same as last year, but the ranking changed. The most notable was that Evergrande Real Estate surpassed the industry's largest enterprise *Vanke* Real Estate to become the No.1 in the industry.

### Comparison of Developers Top 10 (2011~2016)

Unit: 100 mil RMB

Rank	2011		2012		2013		2014		2015		2016	
	Company Name	Total Sales	Company Name	Total Sales	Company Name	Total Sales						
1	Vanke Group	1,215	Vanke Group	1,452	Vanke Group	1,776	Vanke Group	2,120	Vanke Group	2,627	Poly Group	2,627
2	Dalian Wanda Group	953	Poly Group	1020	Shanghai Greenland Group	1,625	Shanghai Greenland Group	2,080	Evergrande Group	2,050	Vanke Group	2,050
3	Evergrande Group	804	Shanghai Greenland Group	1013	Poly Group	1,251	Dalian Wanda Group	1,501	Shanghai Greenland Group	2,015	Country Garden	2,015
4	Shanghai Greenland Group	770	China Overseas Land	945	China Overseas Land	1,103	Evergrande Group	1,376	Dalian Wanda Group	1,513	Shanghai Greenland Group	1,513
5	Poly Group	732	Dalian Wanda Group	938	Evergrande Group	1,073	Poly Group	1,362	China Overseas Land	1,492	Poly Group	1,492
6	China Overseas Land	708	Evergrande Group	925	Country Garden	1,068	Country Garden	1,250	Poly Group	1,471	China Overseas Land	1,471
7	Country Garden	432	China Greentown	547	Dalian Wanda Group	844	China Overseas Land	1,152	Country Garden	1,402	Longfor Group	1,402
8	Longfor Group	383	China Resources Land	505	China Resources Land	688	Shimao Property Holdings	708	China Resources Land	851	R&F Properties	851
9	China Greentown	353	Country Garden	491	Shimao Property Holdings	683	China Resources Land	700	Sunac China	731	Country Garden	731
10	China Resources Land	330	Shimao Property Holdings	461	China Greentown	660	Sunac China	658	China Fortune Land Development	725	Dalian Wanda Group	725
<b>Total Sales</b>	6,680		8,297		10,771		12,907		14,877		22,022	
<b>Total Share within National Sales</b>	11.3%		12.9%		13.3%		16.9%		17.0%		18.72%	
<b>Average Coverage</b>	40.5 Cities		53.1 Cities		67.2 Cities		73.7 Cities		75.1 Cities		87.5 Cities	

## Movements of Chinese Real Estate Developers

In the recently announced "Top 10 Companies in Commercial Real Estate in 2017", domestic capital and Hong Kong–Singaporean companies accounted for half of the total. SCPG, which's the subsidiary of Vanke Real Estate, has replaced Wanda group enter the Top3.

### Top 10 Companies in Commercial Real Estate in 2017

Rank	Company Name	Company Nature	Overall Rating Score	Representative Commercial Project
1	China Resources Land	domestic capital	89.7	Shenzhen MIXC
2	Hang Lung Properties	Hong Kong capital	87.9	Plaza 66
3	CSPG	domestic capital	86.6	Wuhan INCITY
4	Wanda Commercial Real Estate	domestic capital	85.8	Wanda Plaza
5	Longfor Properties	domestic capital	82.4	Chongqing North Street
6	Capitaland	Singapore capital	82.3	Raffles City Shanghai Plaza
7	SHK Properties	Hong Kong capital	81.7	ICC Shanghai
8	Swire Properties	Hong Kong capital	81.5	Chengdu TaiKoo Hui
9	Joy City Properties	domestic capital	80.9	Shanghai Joy City
10	Wharf Holdings	Hong Kong capital	80.8	Shanghai Time Square

Note) November 2017 New perspective media announced "TOP 100 enterprises in 2017

China Commercial real estate." Four indicators are used in the overall evaluation (full mark 100 points) as management (40 points), management (30 points), brand (20 points) and innovation (10 points).

Source: made by NRI based on public information

## Future prospects of Chinese Real Estate Developers

### Future prospects of Chinese Real Estate Developers

1

- The government will introduce various incentives to expand the rental housing market.

The new type of residential leasing enterprises centered on large state-owned enterprises keeps pouring out.

2

- Real estate developers are actively involved in the construction of a small town (street) in the background of the new city.

Work with other companies across industries to develop new real estate products.

3

- From the previous emphasis on the development of real estate developers, a focus on industrial agglomeration and cultivation of operation managers.

Real estate developers have diversified into other businesses, as well as the rapid growth of industrial property developers who are engaged in the development and operation of industrial parks.

<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
<b>Korea</b>	Economic stagnation has affected residential and retail, but office is stable.
<b>Taiwan</b>	Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.
<b>Singapore</b>	Oversupply in each market has surfaced due to global economic slowdown.
<b>Thailand</b>	Residential and office in Bangkok and its surrounding areas are stable under economic recovery.
<b>India</b>	Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.
<b>Russia</b>	Office and retail markets in Moscow have struggled due to prolonged stagnation.
<b>USA</b>	Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

## **Korea**

Economic stagnation has affected residential and retail, but office is stable.

1 Macroeconomic Environment

2 Office Market

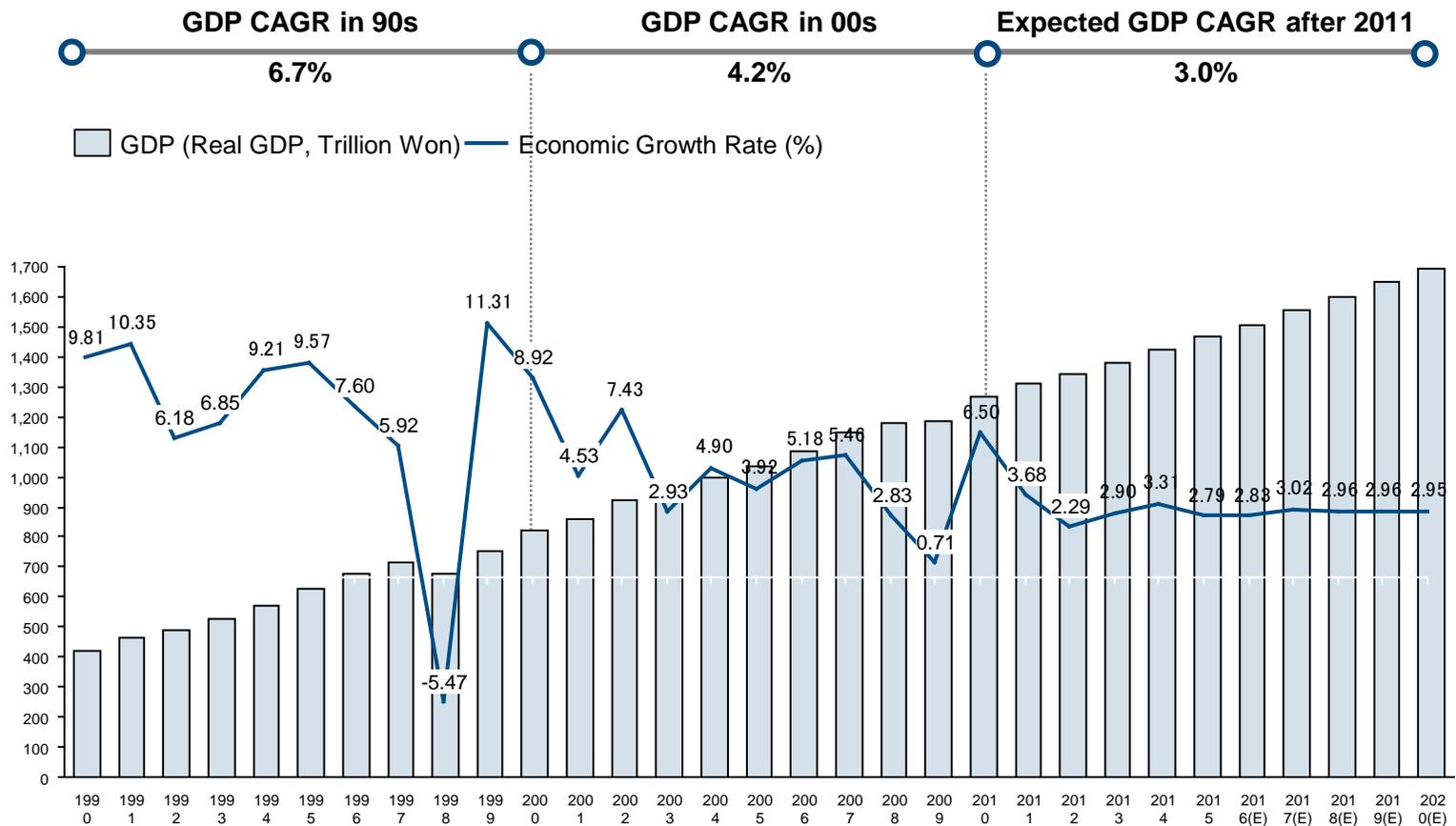
3 Residential Market

4 Commercial Facilities Market

5 Real Estate Investment Market

# The Korean economy is expected to continue growing at a low rate of 3%.

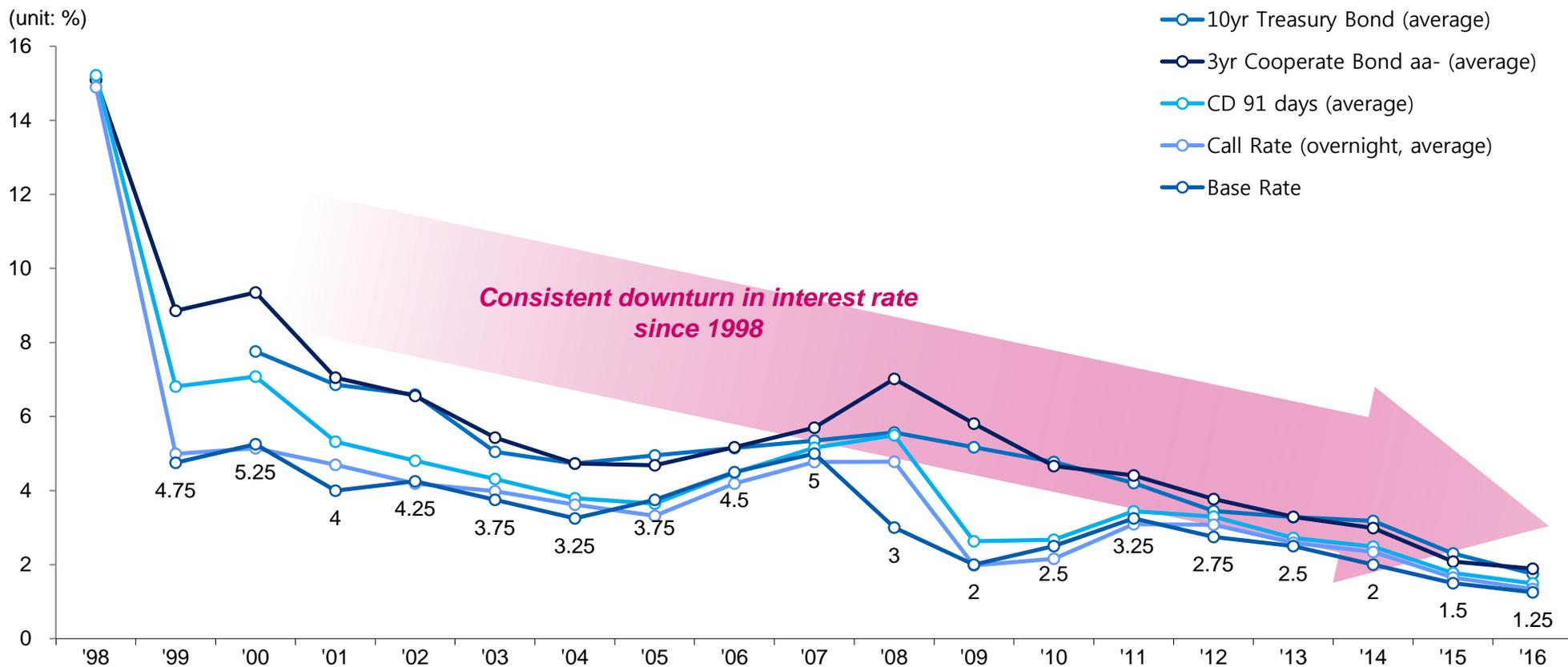
The trend and forecast of GDP and economic growth rate in Korea



Source: NRI based on IMF (2017.10)

**Interest rate has declined to 1% since the bankruptcy of Lehman Brothers in 2008. Low interest rate is expected to increase the liquidity.**

Interest Rate (1998-2016)

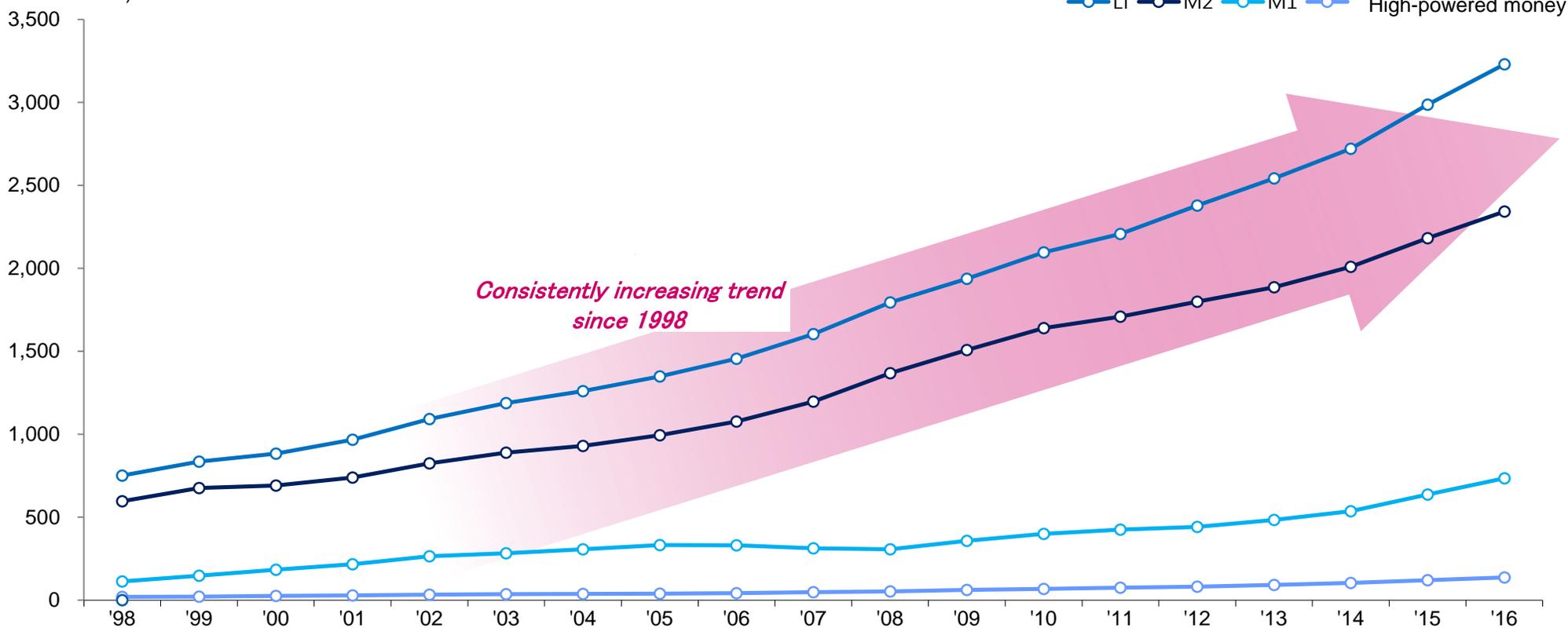


Source: NRI based on data from The Bank of Korea

**With the implementation of a loose monetary policy for economic revitalization, the amount of domestic currency is continuously increasing and market liquidity is expanding.**

Trends in average balance of KRW (1998-2016)

(unit: Trillion Won)



*Consistently increasing trend since 1998*

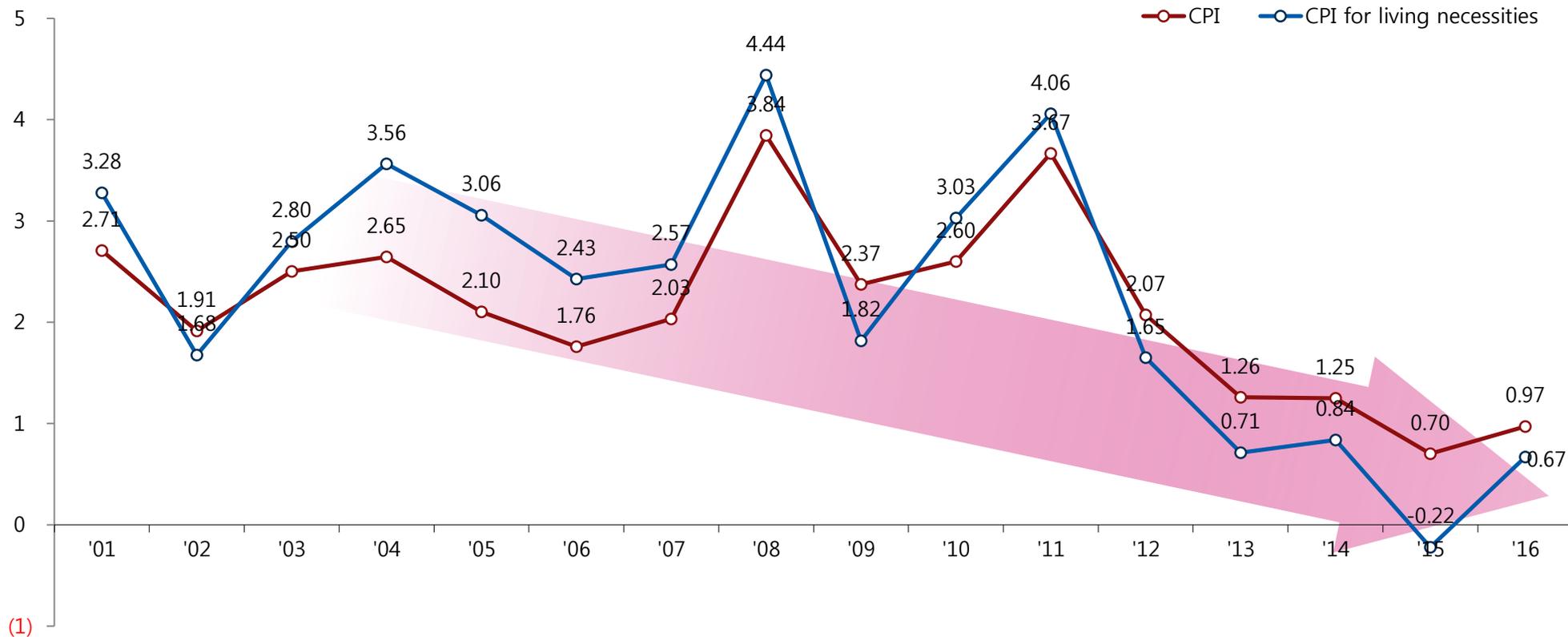
Note: High-powered money = Currency issued + KRW deposited in financial institutions and The Bank of Korea, M1 (consultation currency); Currency-in-circulation + demand deposits, and savings account balance where deposit or withdrawal can be done any time - mutual dealings between institutions handling the deposits of financial instruments  
 M2 (Broad currency): M1 + time deposits/savings/reserves/payments + market-based financial instruments (CD/RP/Accommodation bill) + financial instruments offering dividend + bank debentures + others (investment securities and savings/promissory notes issued by financial companies) - long-term financial instruments (2 years)/mutual dealings between institutions handling the deposits of financial instruments  
 (Liquidity of financial institutions): M1 + Savings/reserves/bank debentures within M2 with maturity period of 2 years or more + deposits with Korea Securities Finance Corporation + reserves for insurance contracts with life insurance companies (including post offices) + deposits excluding those of agricultural cooperatives or country people - mutual dealings of such financial instruments between institutions covered in Lf

Source: NRI based on data from The Bank of Korea

## Valorization Policy maintains Consumer Price Index at approximately 1%.

Changes in Consumer Price Index(CPI) Year-on-year Ratio

(unit: Year-on-Year, %)



(1)

Note: CPI is calculated on a monthly basis, assuming year 2015 as 100 and covering 481 items (weighted average) for research  
 CPI for living necessities provides a separate summary of 142 products that are designated as daily necessities or those that are purchased frequently, out of the total 481 products

Source: NRI based on data from The Bank of Korea, Media Research

**After the Lehman shock, the won/dollar exchange rate fell. However, it started to rise after 2014.**

Won/Dollar exchange rate trends

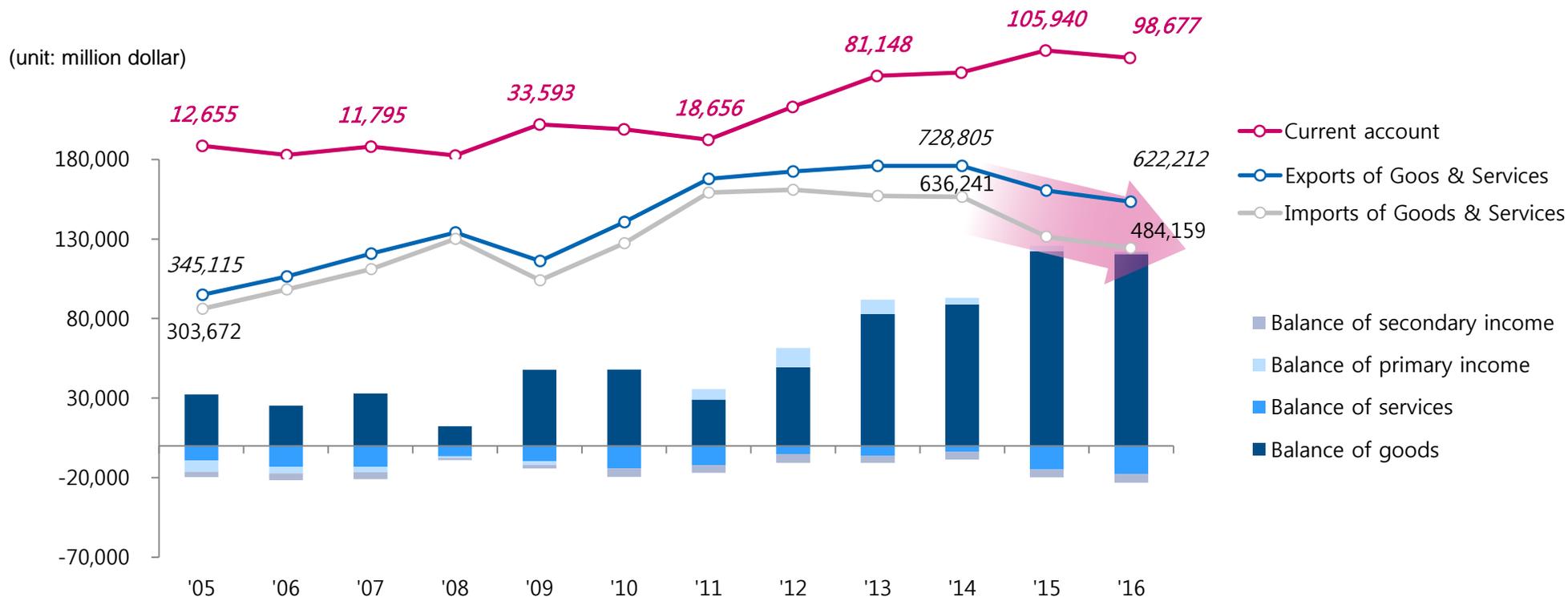


Note: Based on the current price of KRW / USD  
Source: NRI based on data from The Bank of Korea

## Macroeconomic trends

The current account surplus is slightly lower (approximately 990 dollars) than the one last year which was recorded the highest. This is because of the fall in exports and the deficit in service balance resulted from recession in construction and transportation industry.

### Current account trends

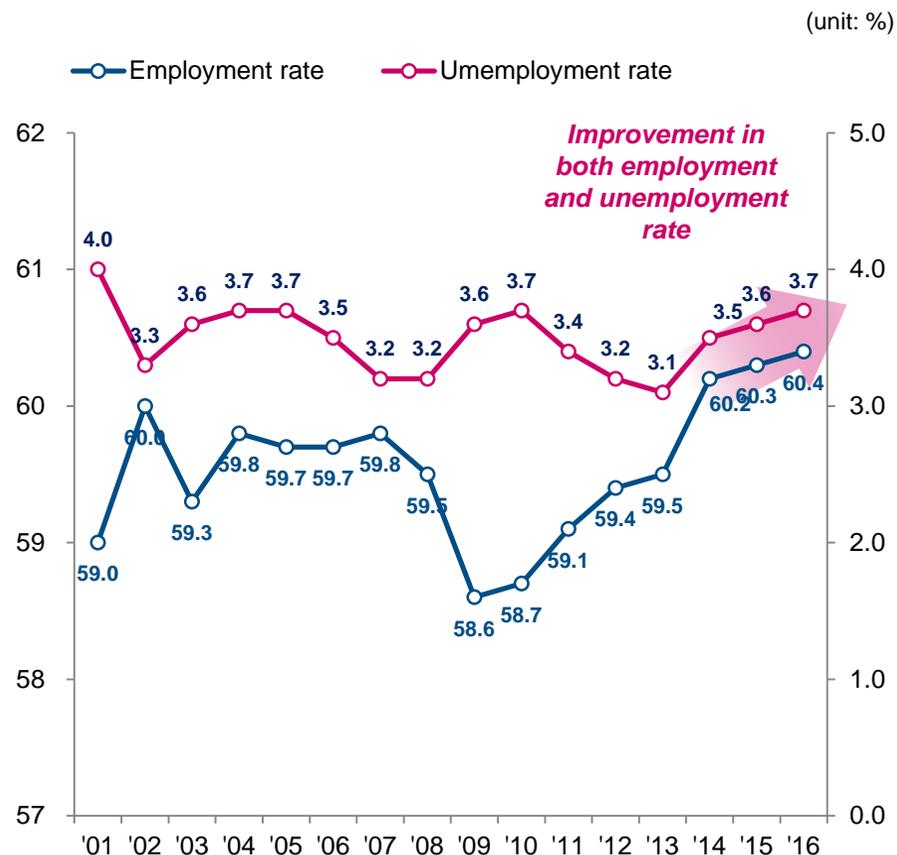


Source: NRI based on data from The Bank of Korea

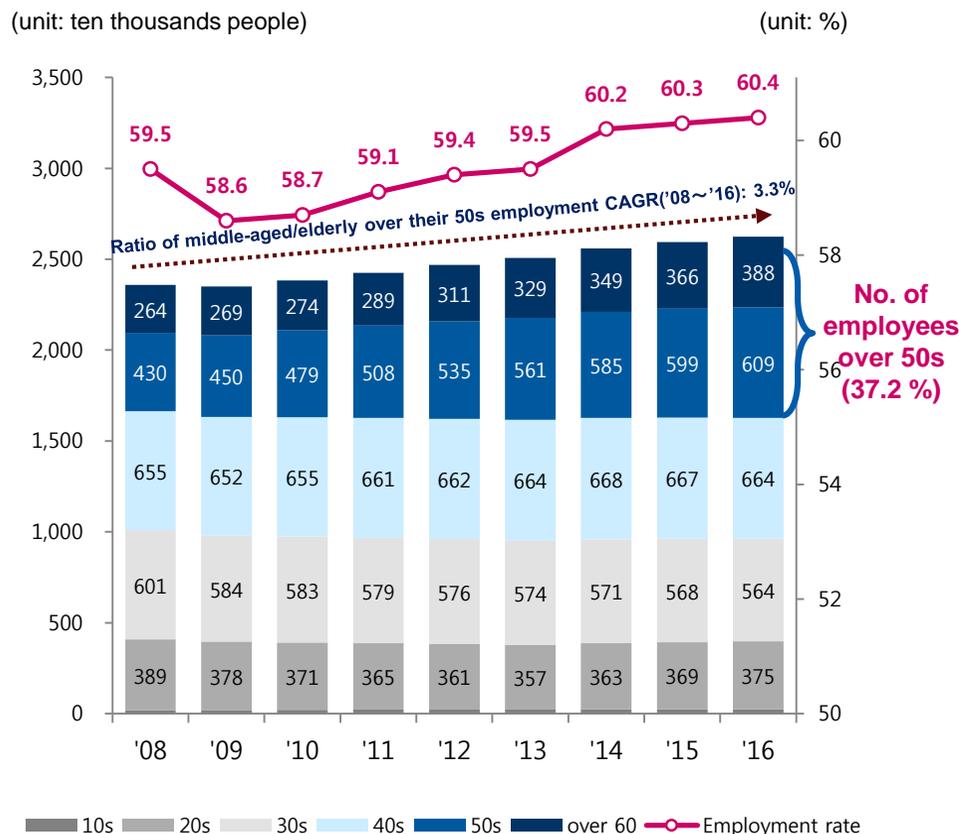
## Macroeconomic trends

The rise of the rate of employment and unemployment. The rise of the employment rate is attributed to increase in the middle-aged/elderly workers. However, for job seekers in their 20s, the work environment is not improving.

### Employment Rate and Unemployment Rate in Korea



### Employment Rate by Age



Note: Employment Rate=(employee/population over age 15)x100, Unemployment Rate=(The Unemployed/Economically Active Population)x100

## Korea

Economic stagnation has affected residential and retail, but office is stable.

1 Macroeconomic Environment

2 Office Market

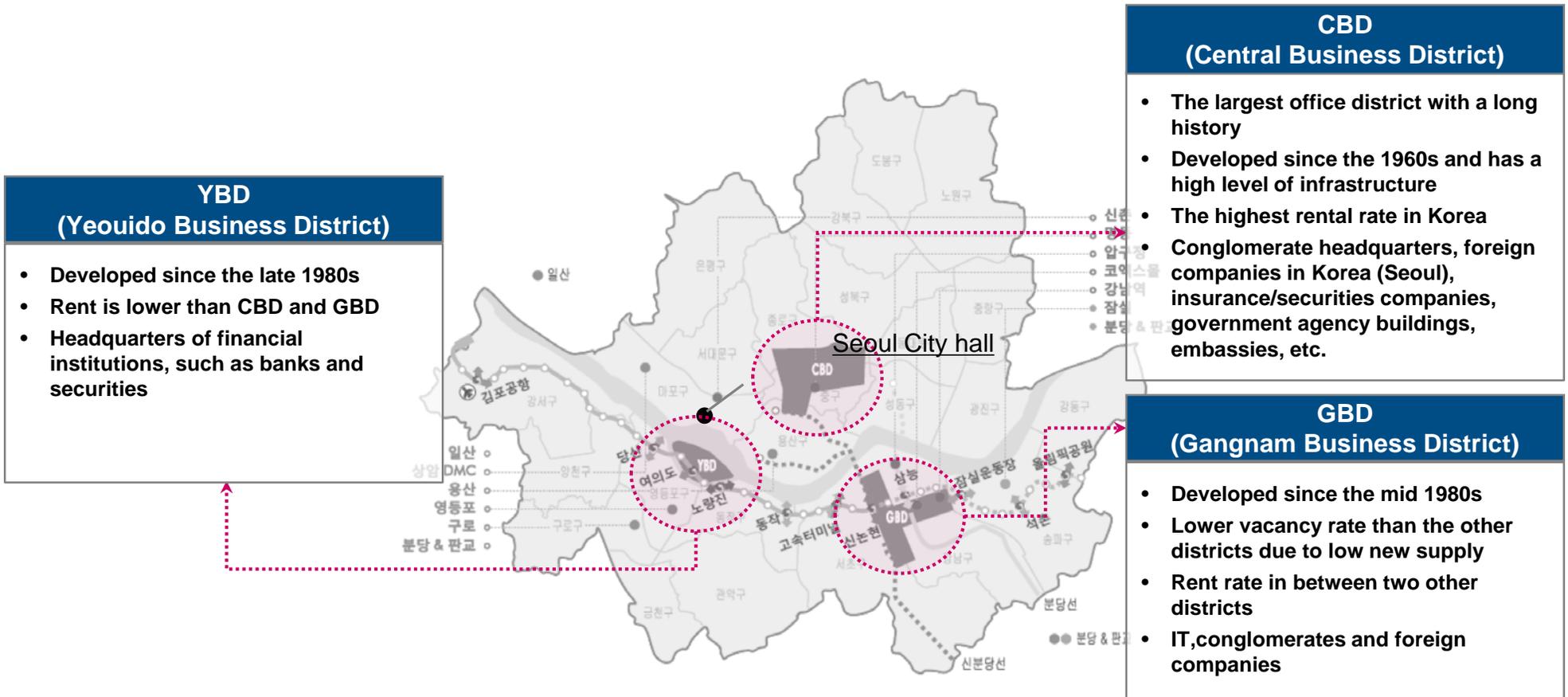
3 Residential Market

4 Commercial Facilities Market

5 Real Estate Investment Market

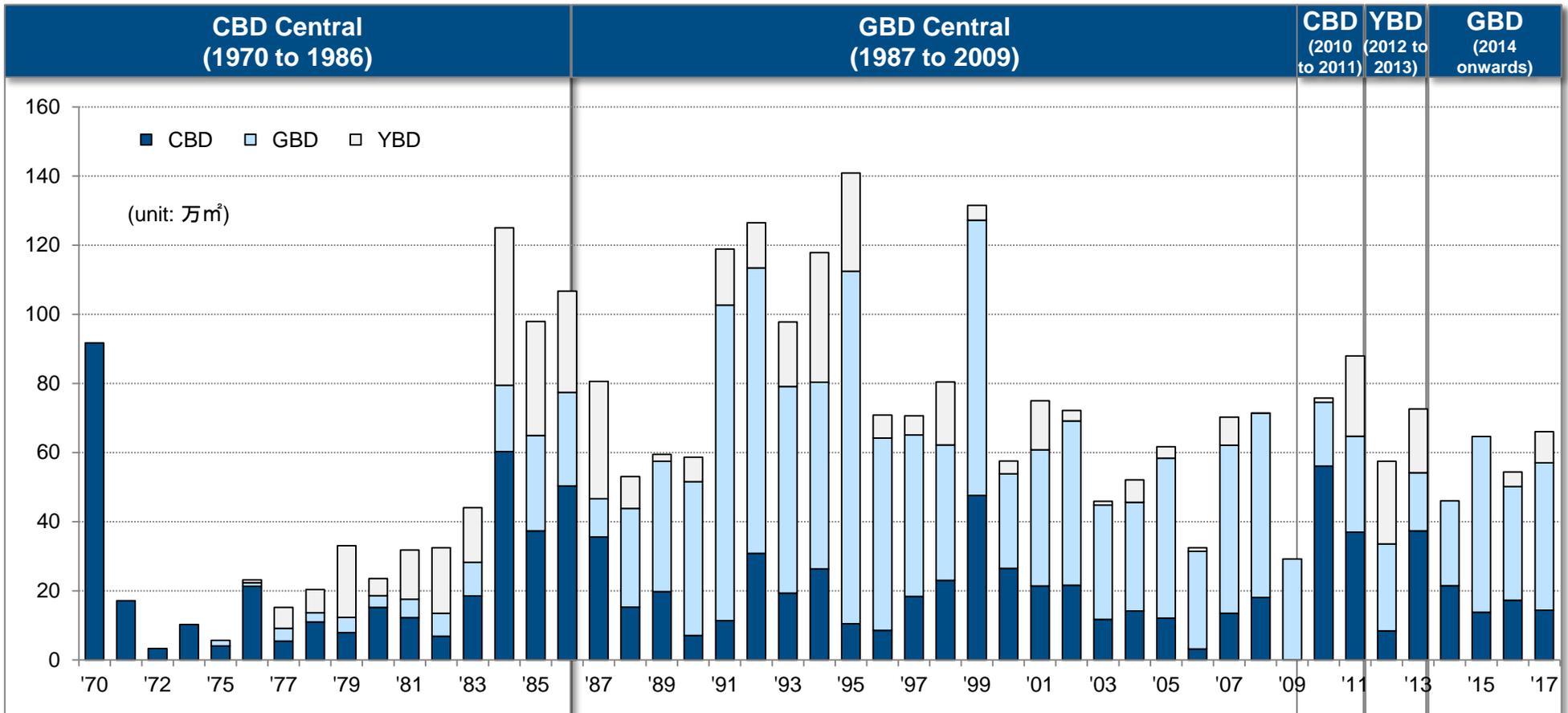
The Seoul office market is divided into three categories: CBD, government agencies and conglomerate headquarters; YBD: financial district; GBD: IT district.

Sphere wise office market of Seoul



Regarding the domestic office market, the supply of new offices increased mainly in CBD and YBD after 2010. After 2014, the supply of new offices mainly increased in GBD.

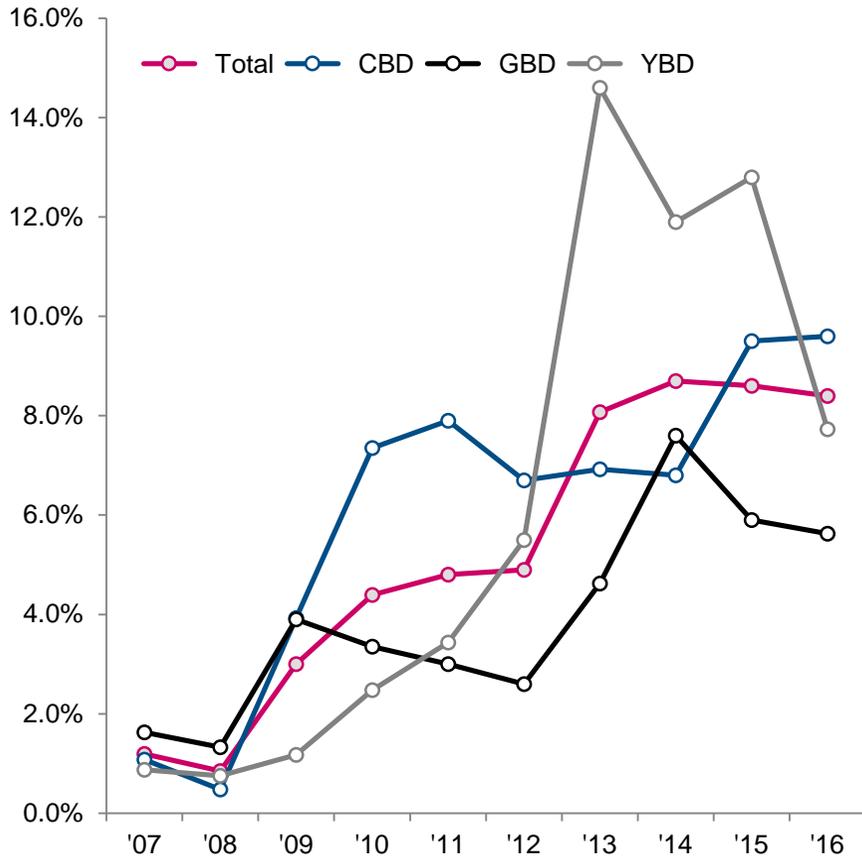
Trends in new supply of offices in Seoul



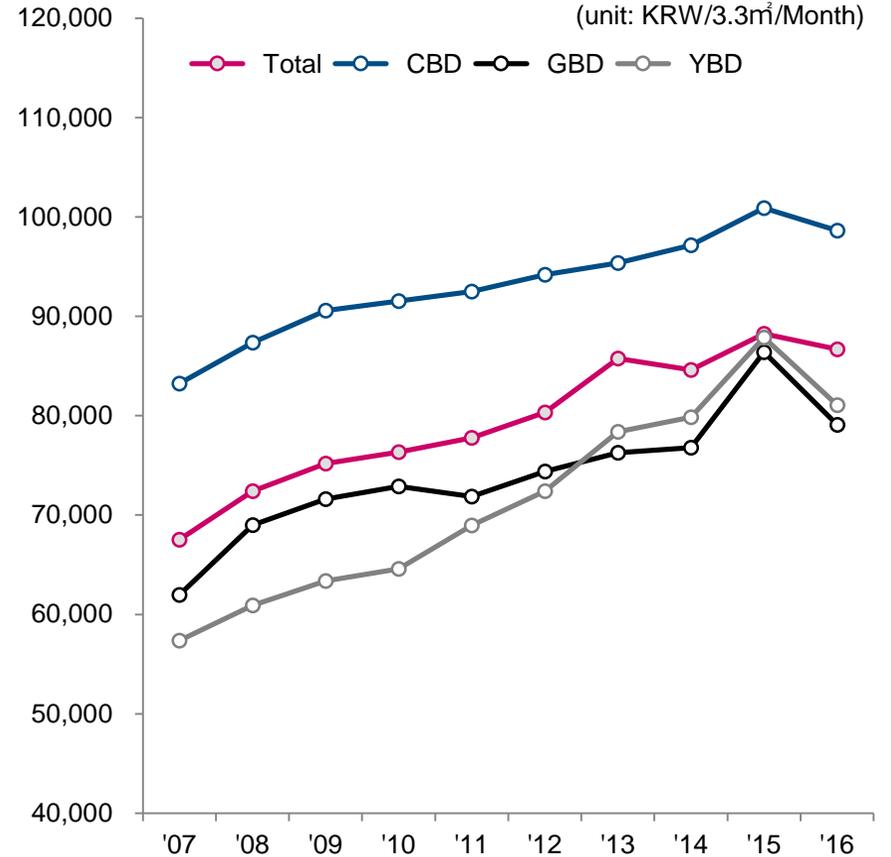
Source: NRI based on Analyst Report

**The vacancy rate of new prime offices in Seoul was 8% and the rental rate reduced to 87K KRW/3.3m<sup>2</sup>/Month.**

Vacancy rate of prime offices in Seoul



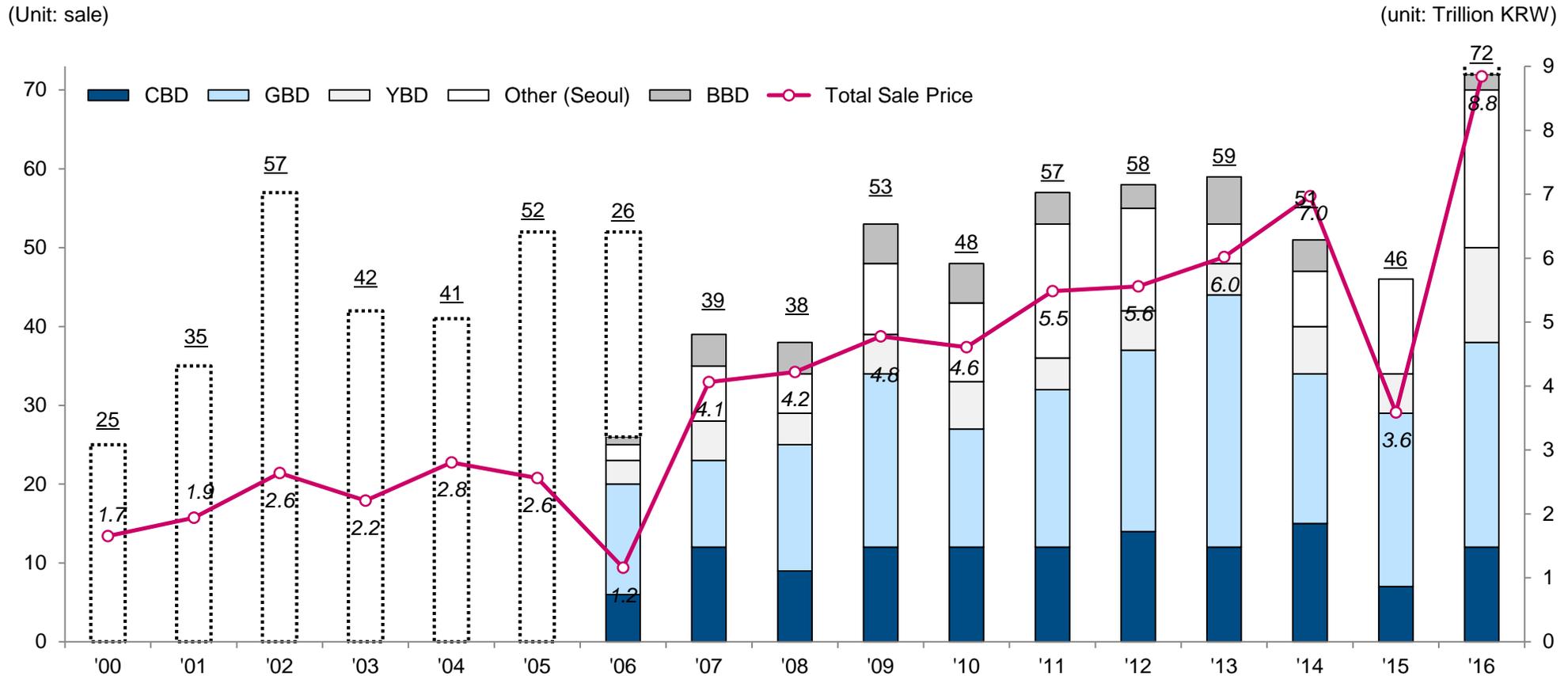
Rental rate of prime offices in Seoul



Source: NRI based on Analyst Report

# The number of major office transactions in Seoul was 72, and it is rapidly increasing with the total sale price.

Number of Seoul office sales and total sale prices

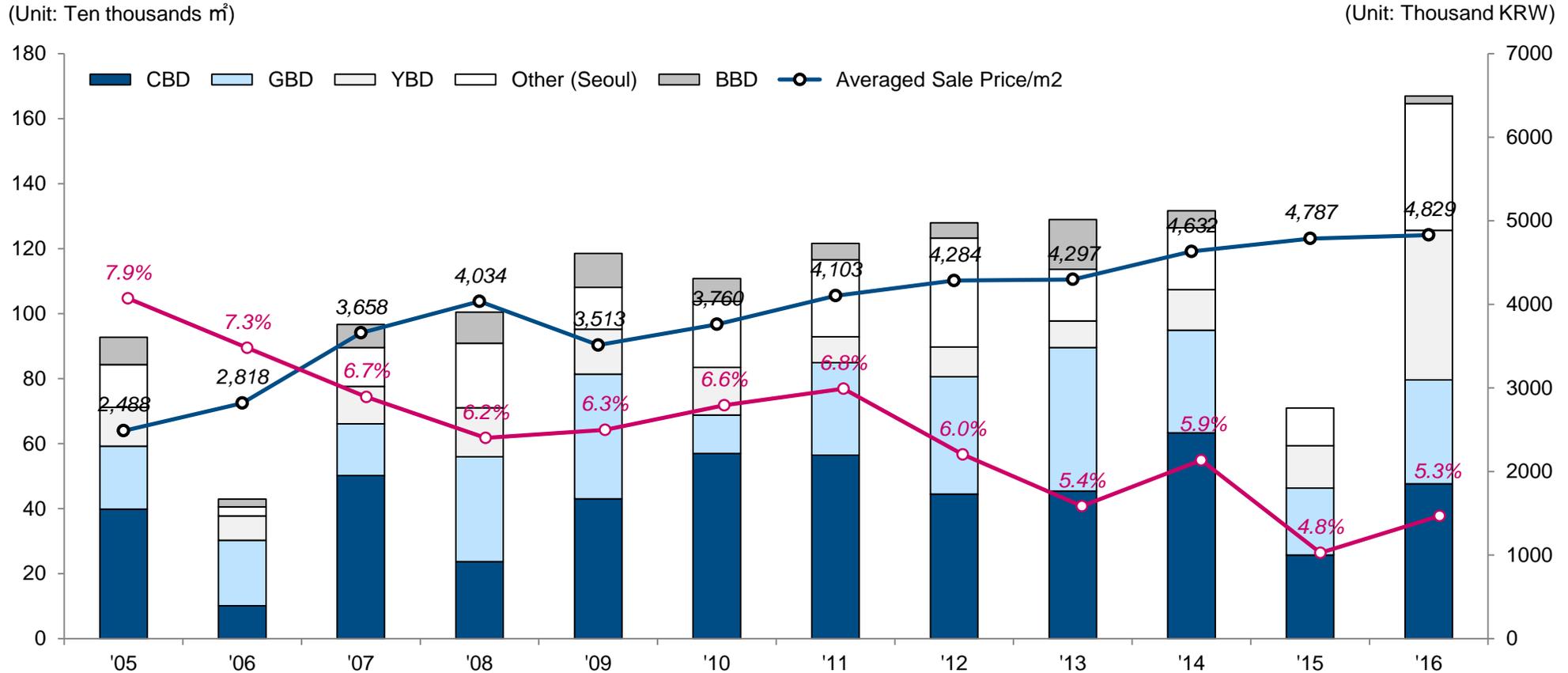


Note: Offices with total floor area of 3,300m<sup>2</sup> or more only are covered

Source: NRI based on Analyst Report

The office sale price was about 4.8 Million/m<sup>2</sup> and the cap rate was 5.3%.

Sales volume and price/m2 by office district in Seoul



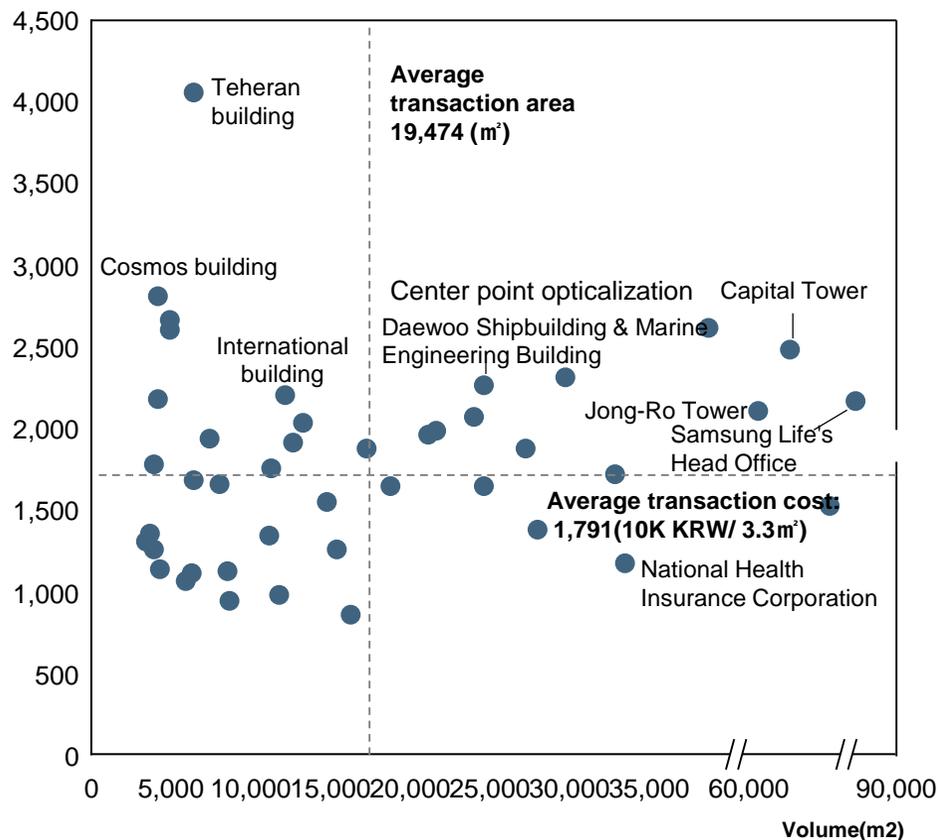
Source: NRI based on Analyst Report

Office market trends

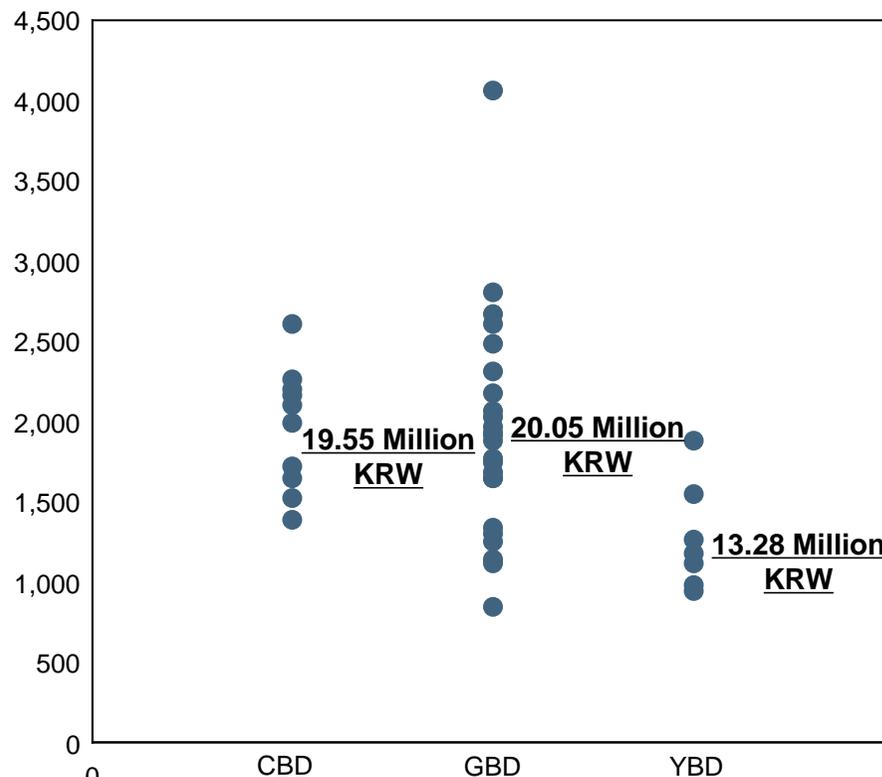
**In 2015, the averaged volume of office sales was 19,000m2, and the averaged sale price per 3.3m2 was about 1.6M KRW.**

Sale price per volume by office district in Seoul (2016, property transaction)

(Price: ten thousands KRW/3.3m2)



(unit: ten thousands KRW/3.3m2)

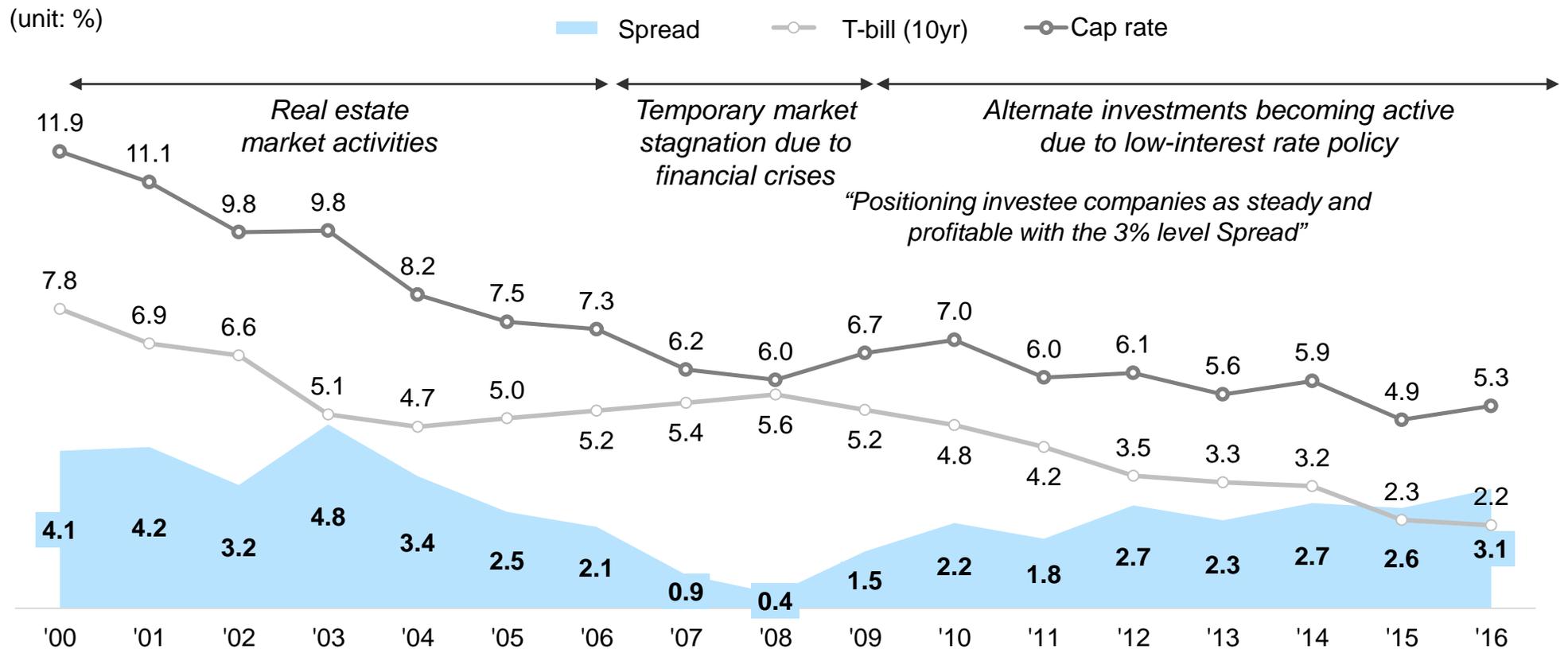


Note: This analysis covers 43 offices with transactions concluded mainly in CBD, GBD and YBD in 2016. Transactions for the completion of construction in 2016, IFC, individual transactions etc. 7 cases are excluded.

Source: NRI based on Analyst Report

# The office market Cap rate in 2015 was about 5% and Spread of government bonds was 4%.

Trends of Seoul office cap rate and T-bill



Source: NRI based on Media Research

## **Korea**

Economic stagnation has affected residential and retail, but office is stable.

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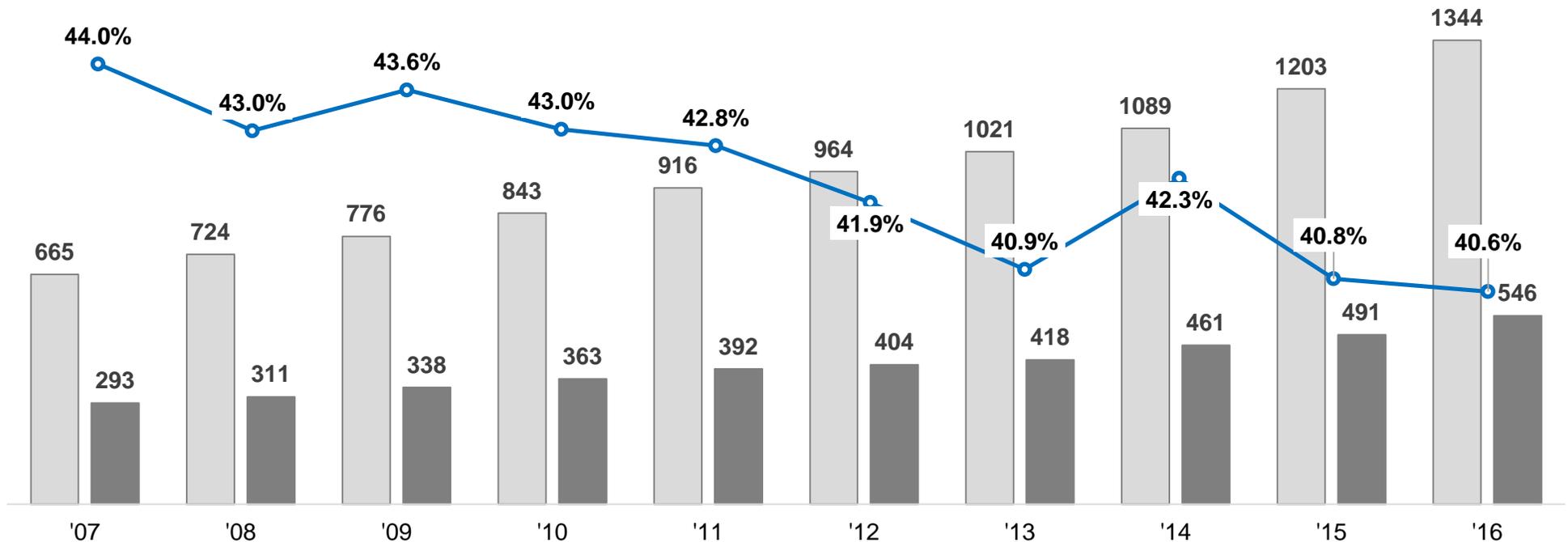
## Residential market trends

The domestic household debts have increased to 1,300 Trillion KRW. Among these, home equity loan accounts for 40%. Also, the default risk is rising because of decline in real estate prices and increase in interest rates.

### Trends in scale of household finance

Unit: Trillion KRW

○ Weight of home equity loan  
■ Household finance  
■ Housing loan

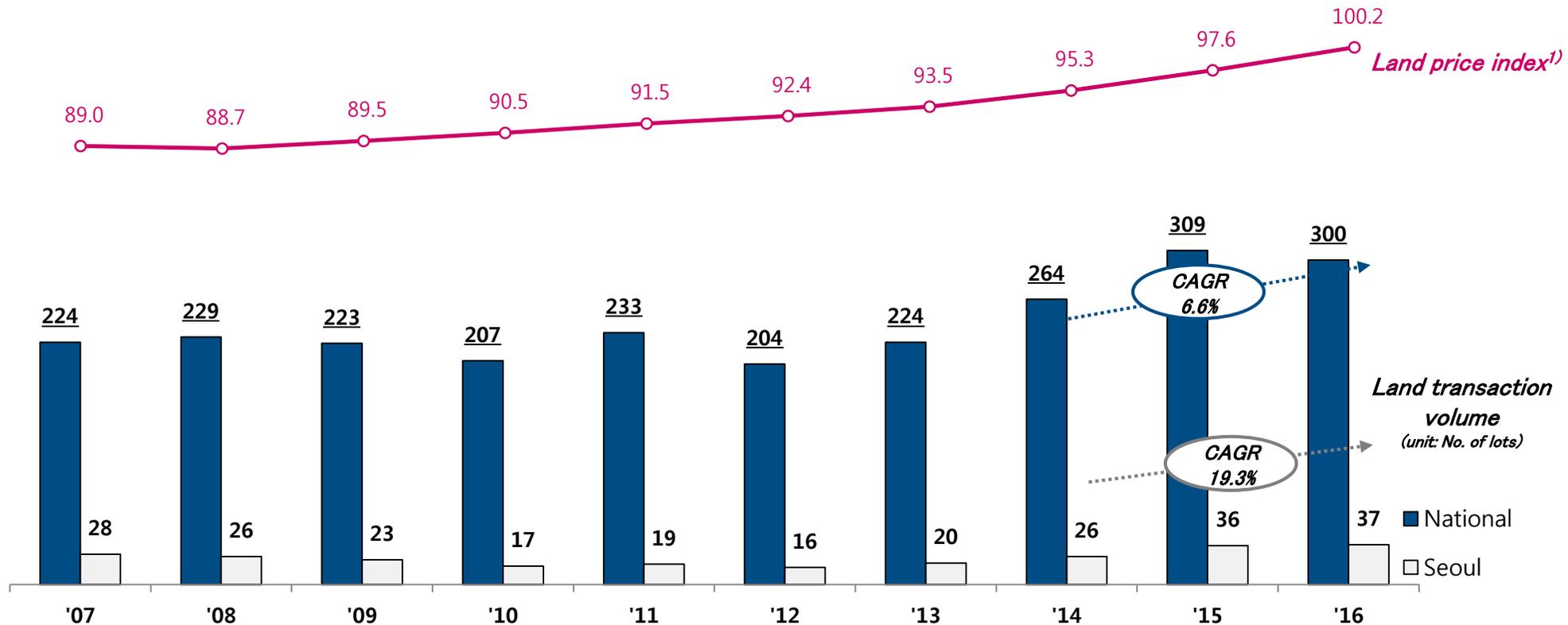


Source: NRI Analysis, National Statistical Office (NSO)

# The land price index and the land transaction volume are gradually rising.

## Land Transaction Volume and Land Price Index<sup>1)</sup>

(Lot unit: 10 thousand number of case )



Note: 1) Based on Land Price Index: 2016.12.1 = 100

Source: NRI based on data from Real Estate Official Statistics Network (<http://www.r-one.co.kr>)

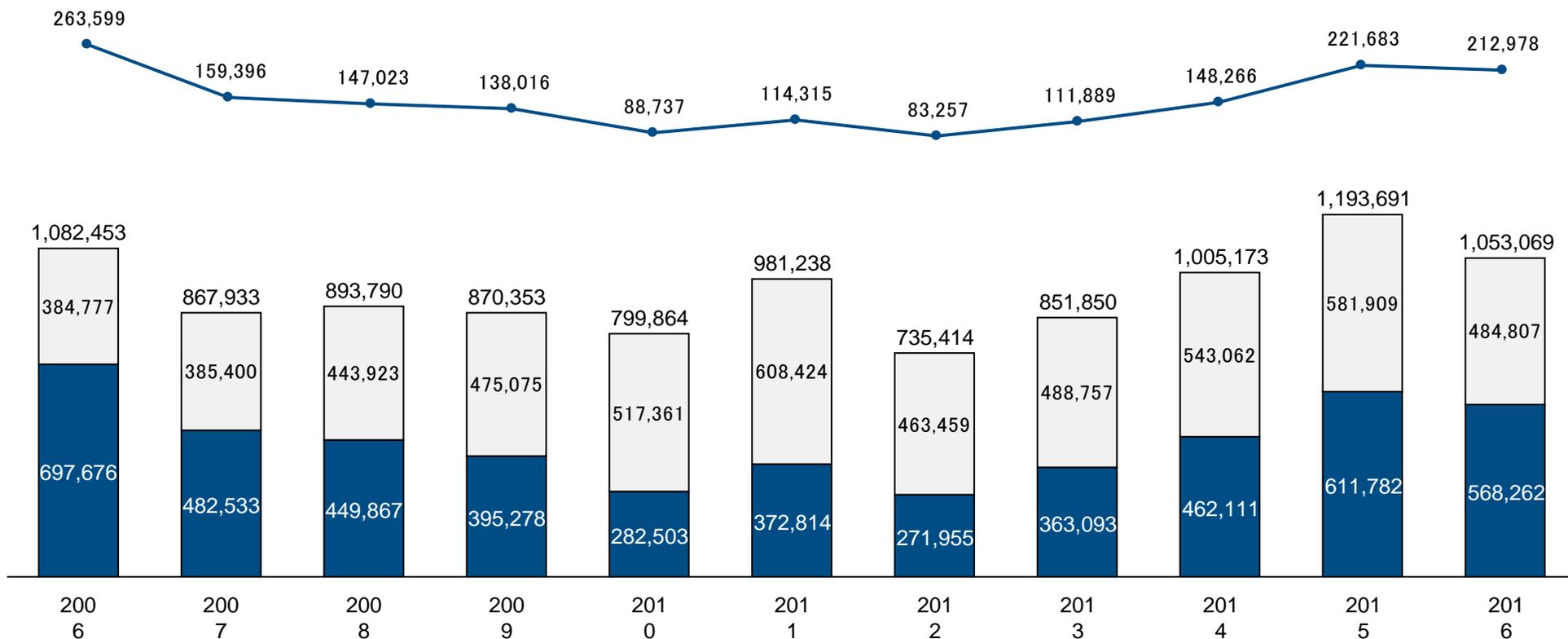
## Residential market trends

The housing transaction volume was showing recovery after 2012; however, with the increase in uncertainties, such as the credit examination strengthening and the interest rate increase in USA, it has slightly decreased.

### Transition of National Housing Transaction Volume

(unit: no. of transaction)  Rural area  Capital area  Seoul

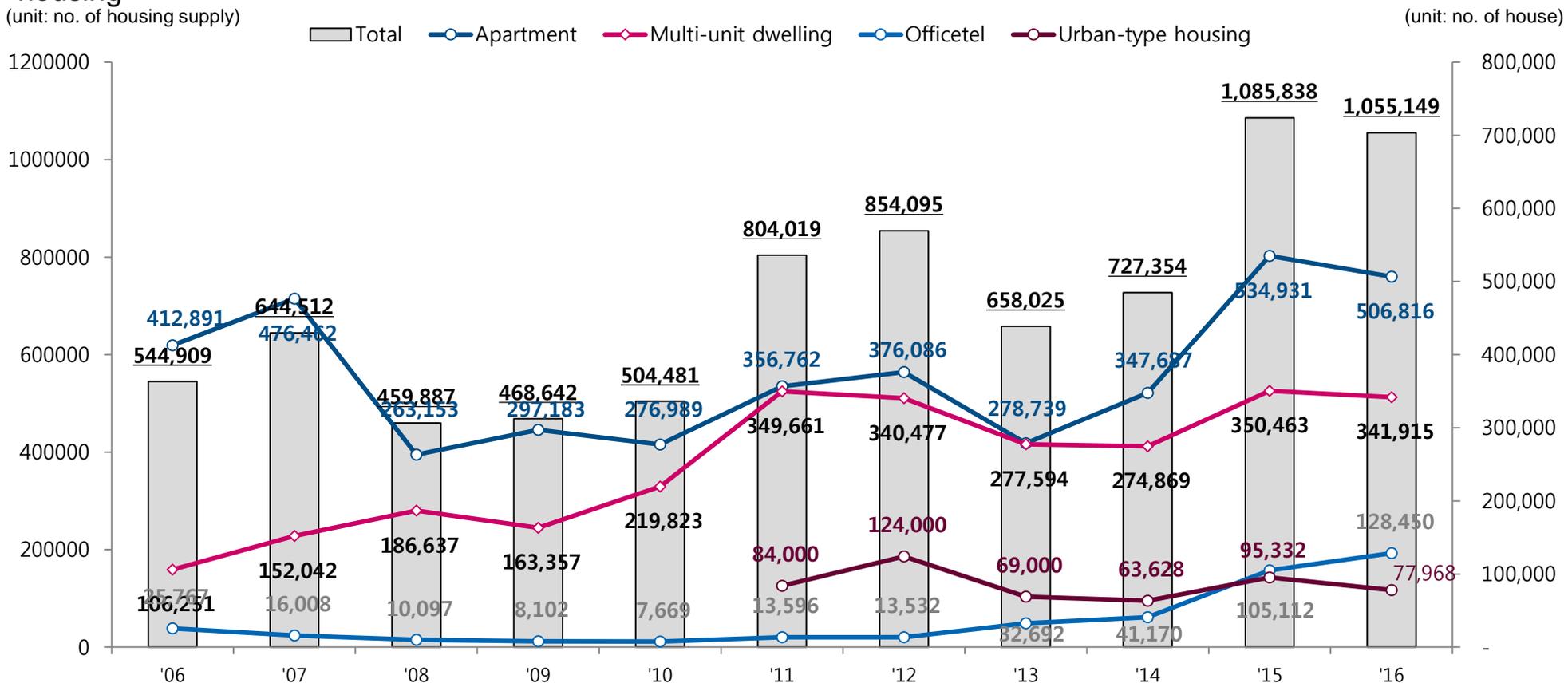
*Transaction volume of metropolitan area accounts for about 54% of that of nationwide*



Source: NRI based on data from Onnara Real Estate (<http://www.onnara.go.kr>)

# The supply of housing units increases since 2013, especially in apartments. In 2016, about one million units are newly supplied.

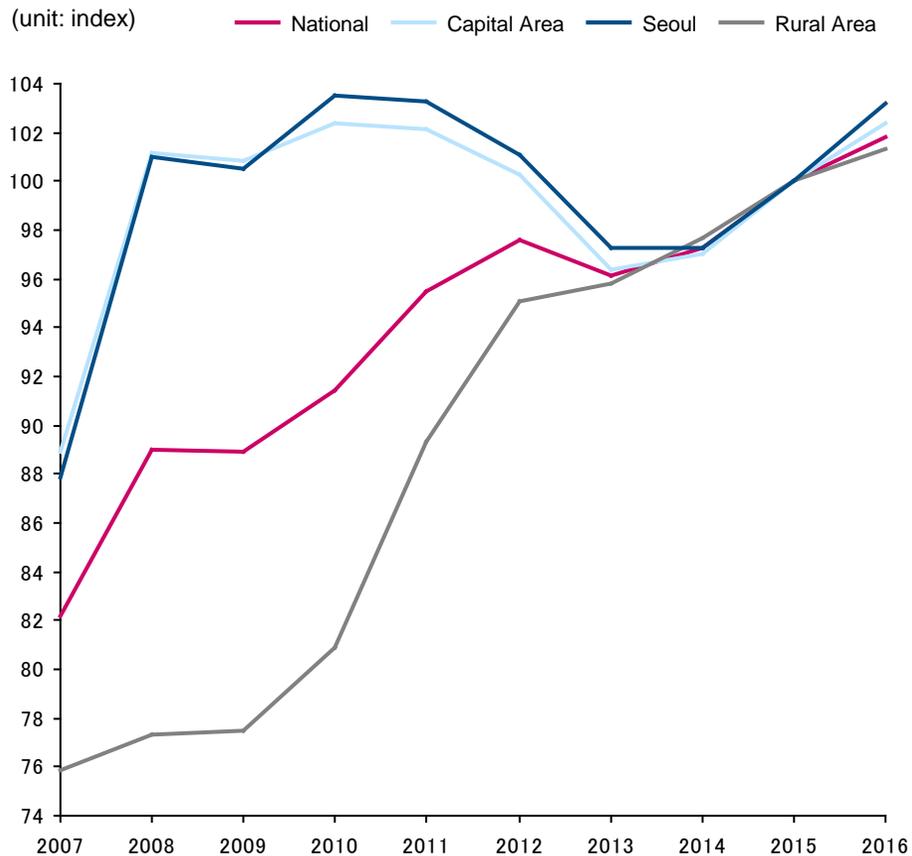
Housing supply by types of housing



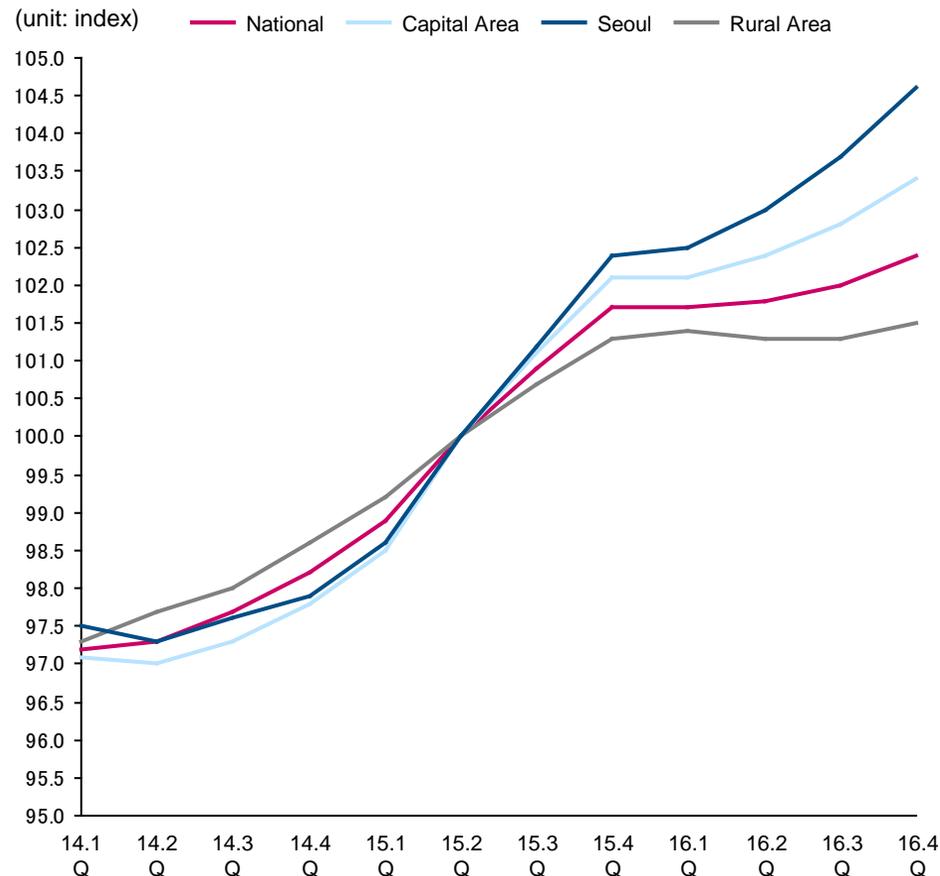
\* Official statistics of Ministry of Land, Infrastructure, and Transportation do not include some officetels and urban-type residences; hence, the gross households supplied would be different from what is mentioned in this report.  
Source: NRI based on statistics of Ministry of Land, Infrastructure, and Transportation

# The average Housing Price Index has been increasing since 2013, especially in Seoul and the metropolitan area.

Housing Price Index (10 years)



Housing Price Index (3 years)

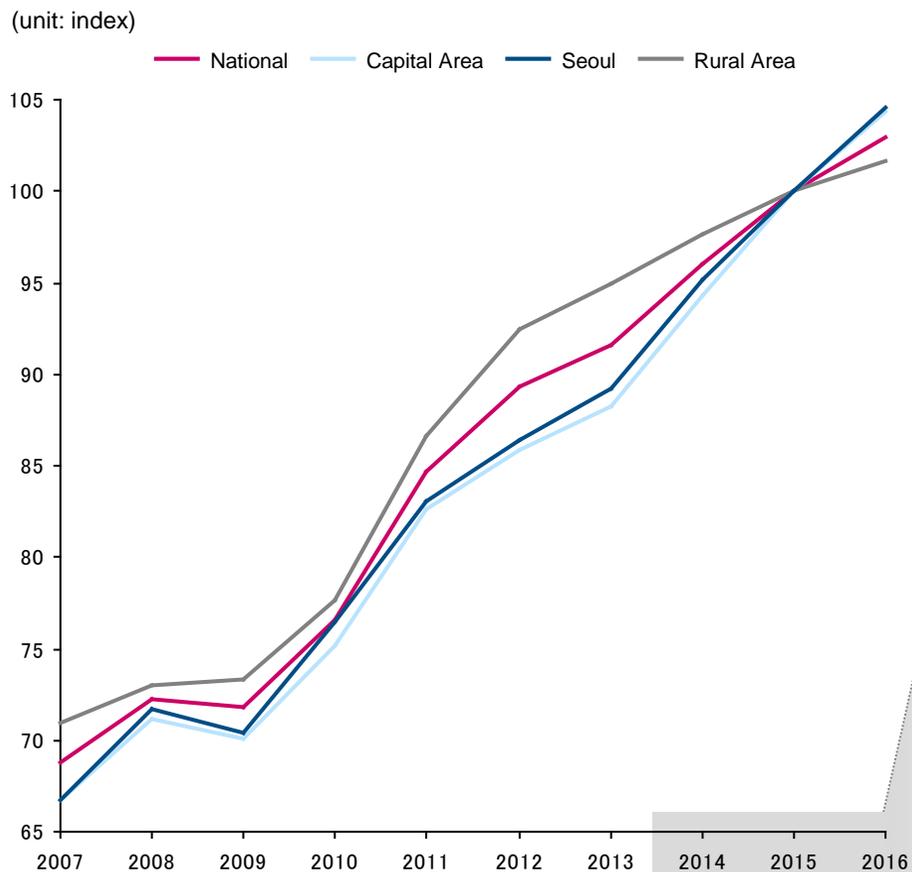


Note: Standard of National Housing Price Index: June, 2015 = 100; Every year, June data was taken as standard

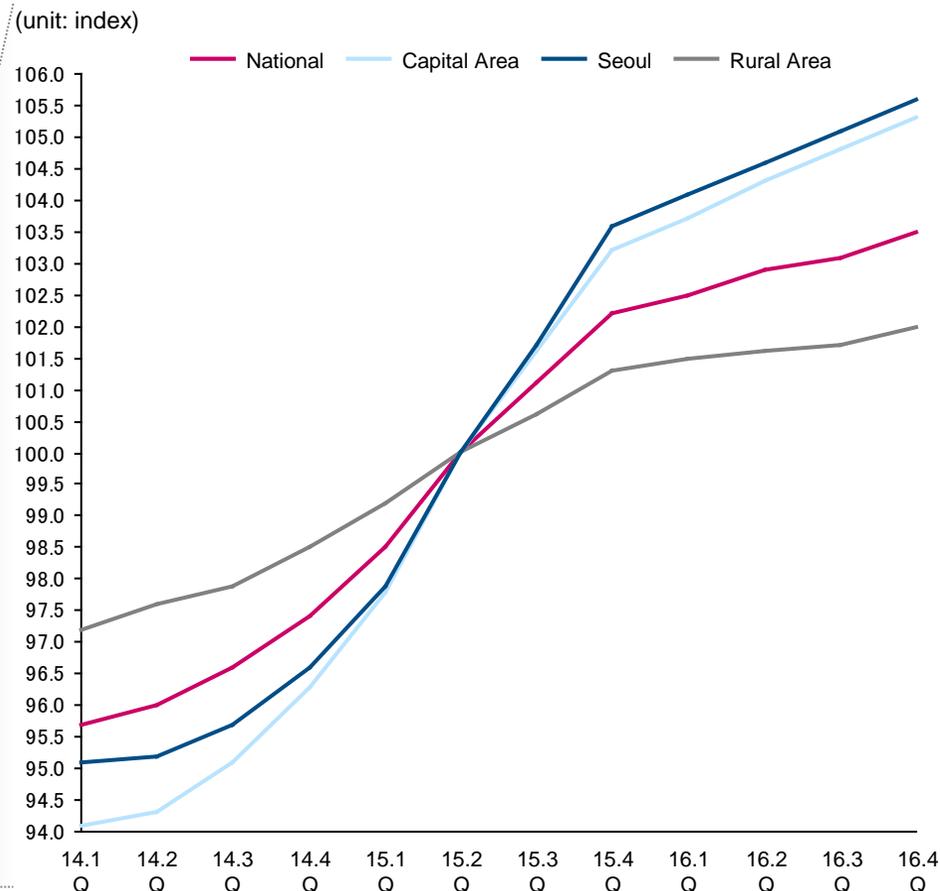
Source: National Statistical Office

The Jeonse (House Lease) price index has consistently illustrated an upward trend in these ten years. However, recently the growth rate has slowed down.

Jeonse Index of Nationwide/capital Area (10 years)



Jeonse Index of Nationwide/capital Area (3 years)



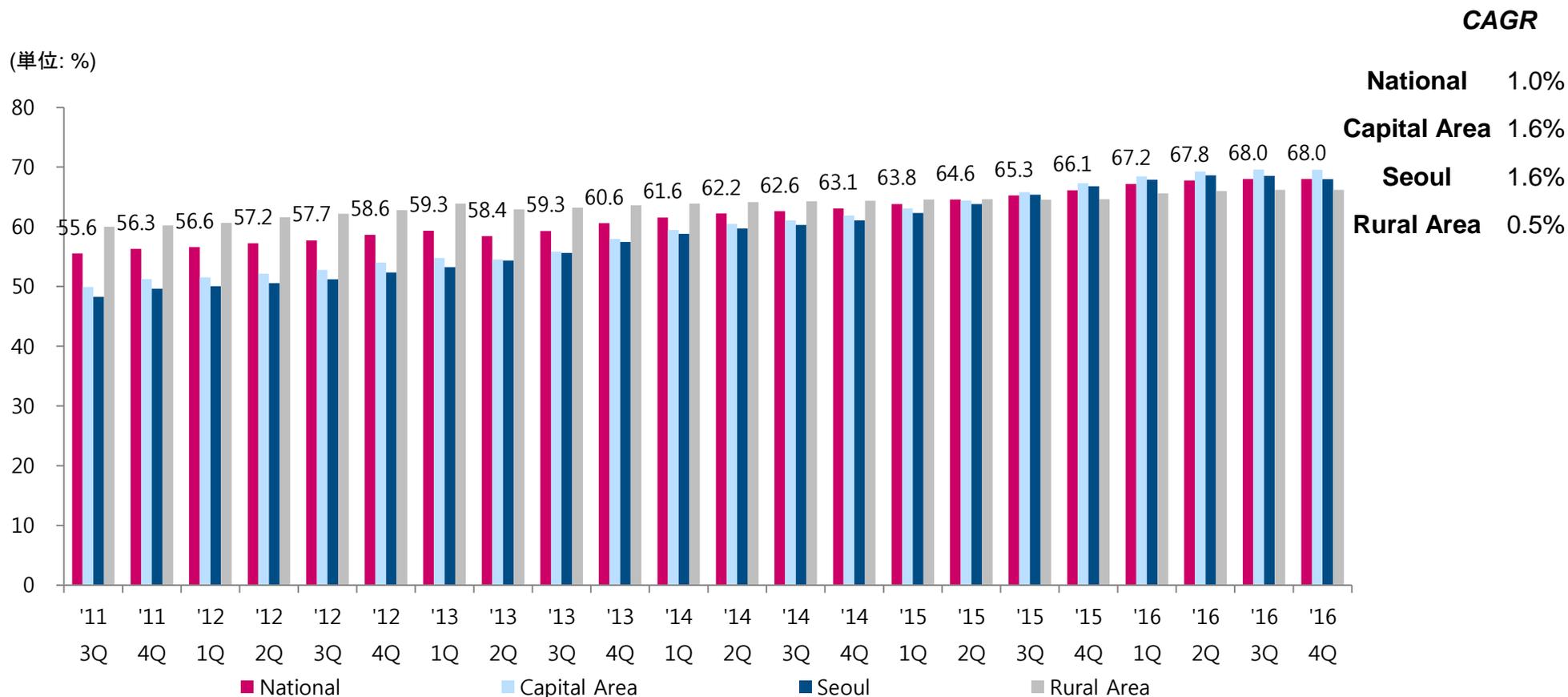
\* Jeonse refers to the way houses are leased. Instead of paying monthly rent, a renter will make a lump-sum deposit on a rental space, at anywhere from 50% to 80% of the market value.

Note: Based on National House Lease Index: June, 2015 = 100; Every year, June data was taken as standard

Source: NRI based on Korea Appraisal Board

**The Jeonse cost is about 68% of the Housing price. The standard in the capital area being 70%, it is mainly increasing in Seoul and capital area.**

National Jeonse Cost to Housing Price



Source: NRI data from based on The Bank of Korea

## Korea

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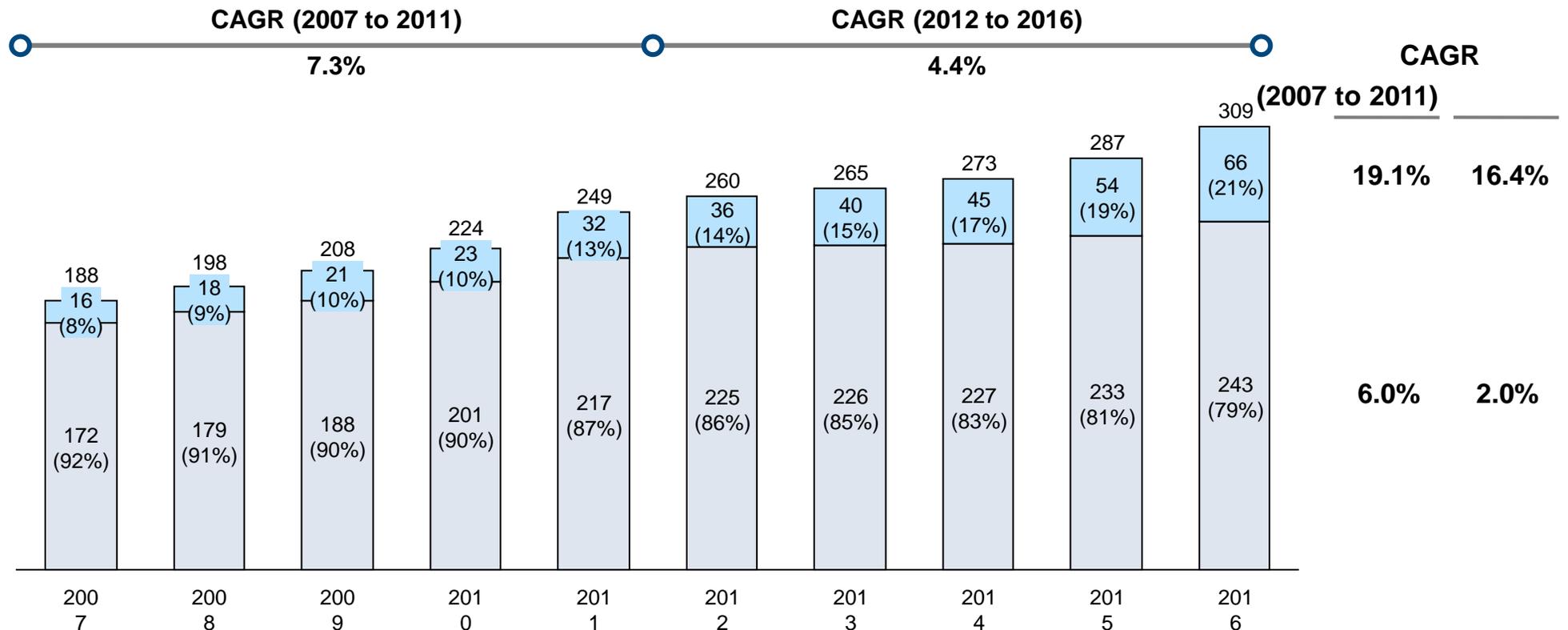
## Commercial facilities market trends

The retail market scale has reached approximately 300 trillion KRW including the both online and offline, especially the online business that has shown a remarkable increase.

### Online/Offline Retail Market Scale (2006-2016)

(Unit: Trillion KRW, %)

Online Offline

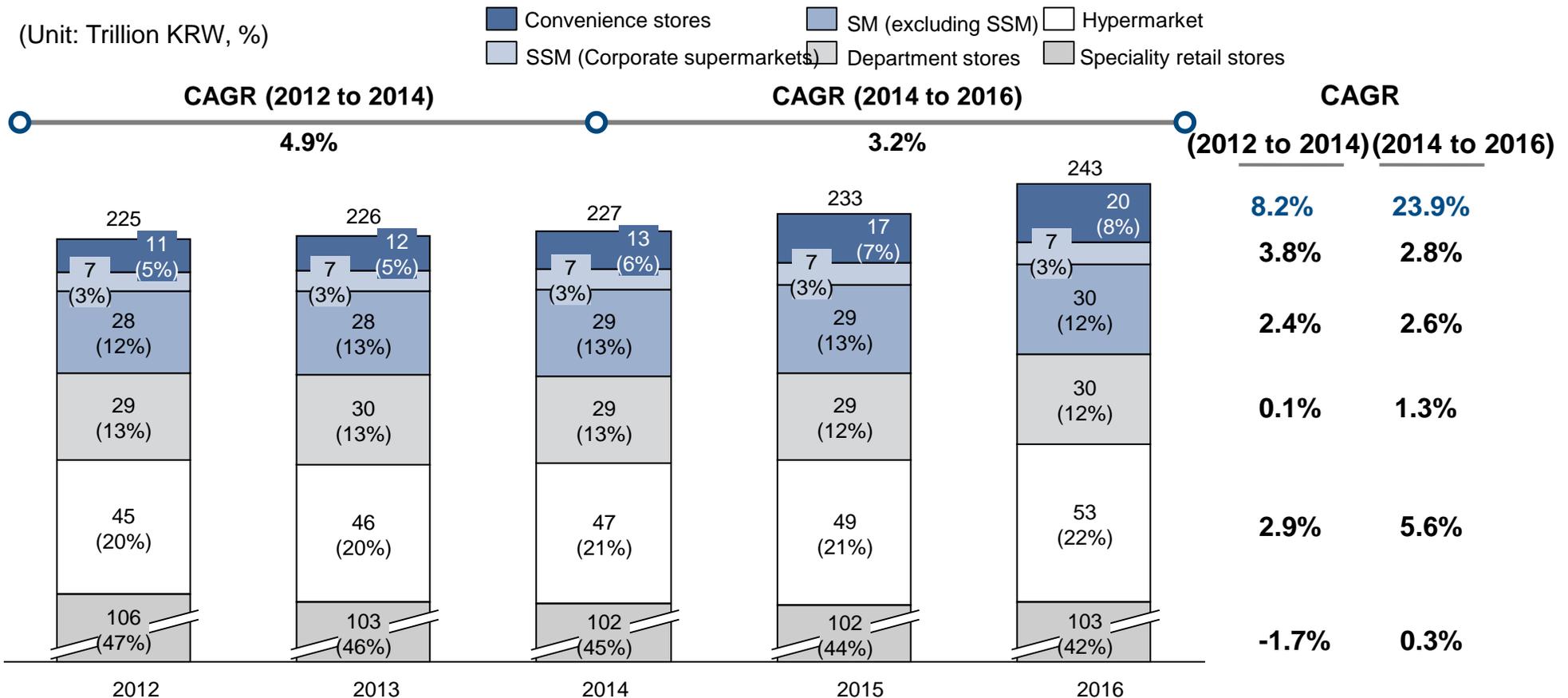


\*Offline market = Department stores, large marts, supermarkets, convenience stores, specialty retail stores (excluding passenger vehicles and fuel retail stores); Online market = Computer shopping, mobile shopping (excluding TV home shopping and catalogue shopping)

The total sales of large marts calculated by the National Statistical Office (NSO) excludes the sales of duty free shops, and includes those of complex malls and Aurette; Source: NRI based on data from National Statistical Office (NSO) and Korea Online Shopping Association

# Among the offline stores, CVS has been leading in growth, while the other businesses stay on slow growth.

Offline Retail Market Scale (2011-2016; business type wise)



\*Offline market = Department stores, large marts, supermarkets, convenience stores, speciality retail stores (excluding passenger vehicles and fuel retail stores)

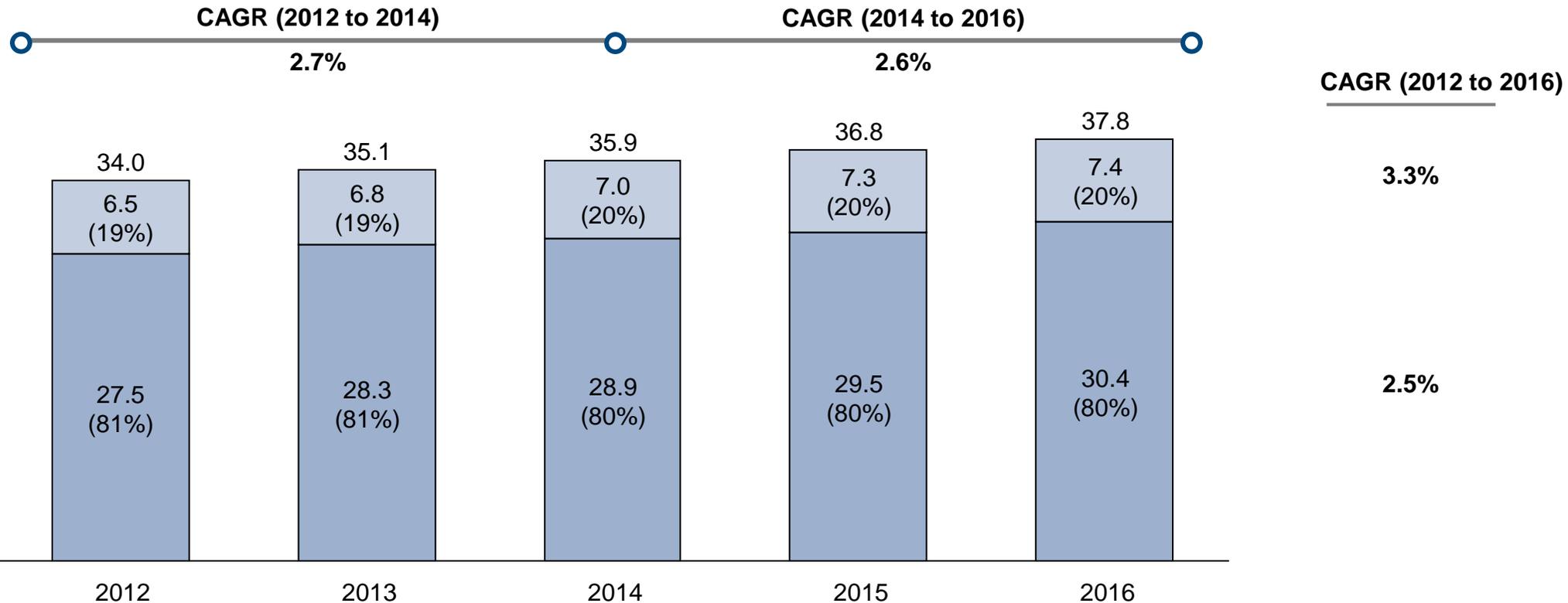
Source: NRI based on data from National Statistical Office (NSO)

# Regarding SM market, the growth rate remains in 2% range and SSM rate stays 20% range.

SM market scale (2012-2016)

(unit: Trillion KRW, %)

SSM SM



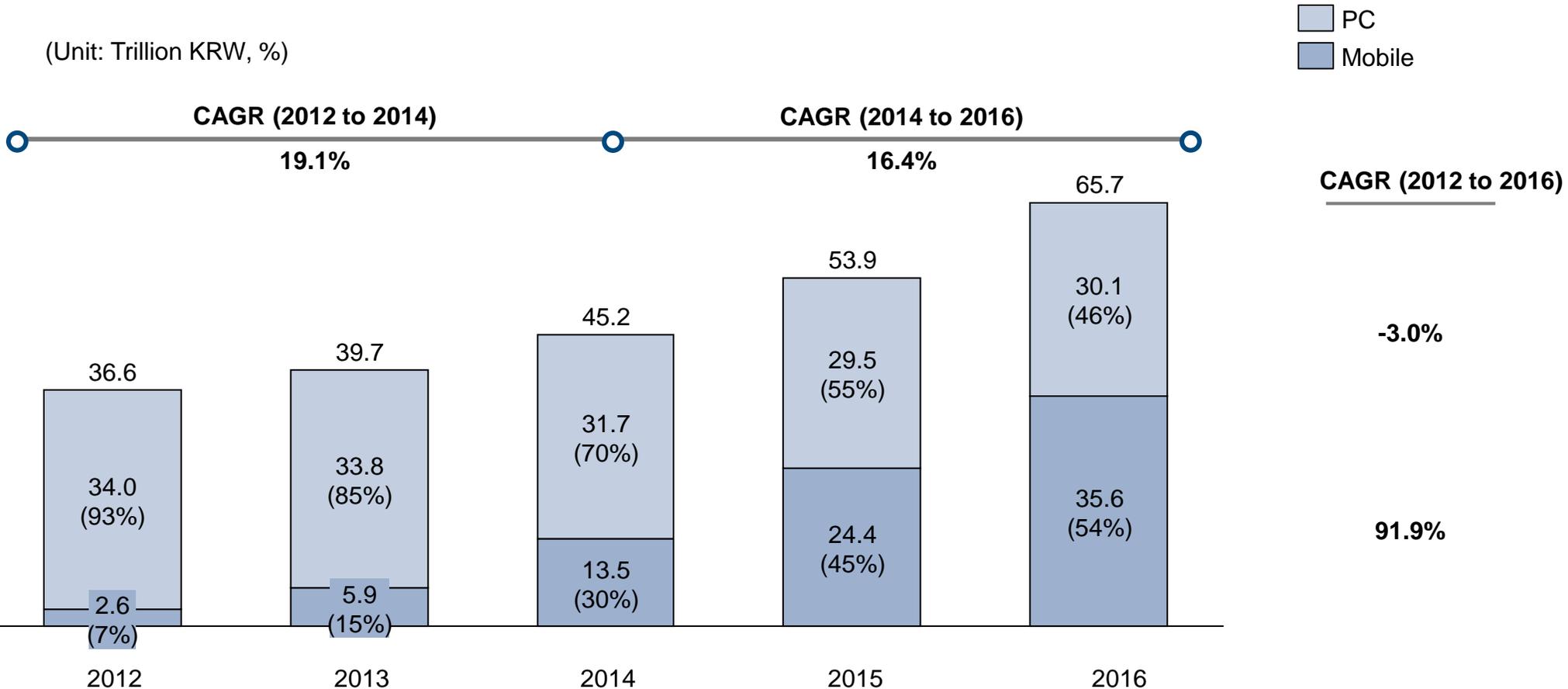
\*SSM = Lotte Super, GS Retail, Home Plus, Everyday Retail, Seowon Distribution, Fishery Cooperatives and Logistics and CS Logistics standards

Source: NRI based on data from National Statistical Office (NSO) and Distributors Yearbook

# The Online market is rapidly growing more than 10% every year and purchase channel is shifting from computer to mobile.

Online retail market scale (2012-2016; procurement channel wise)

(Unit: Trillion KRW, %)

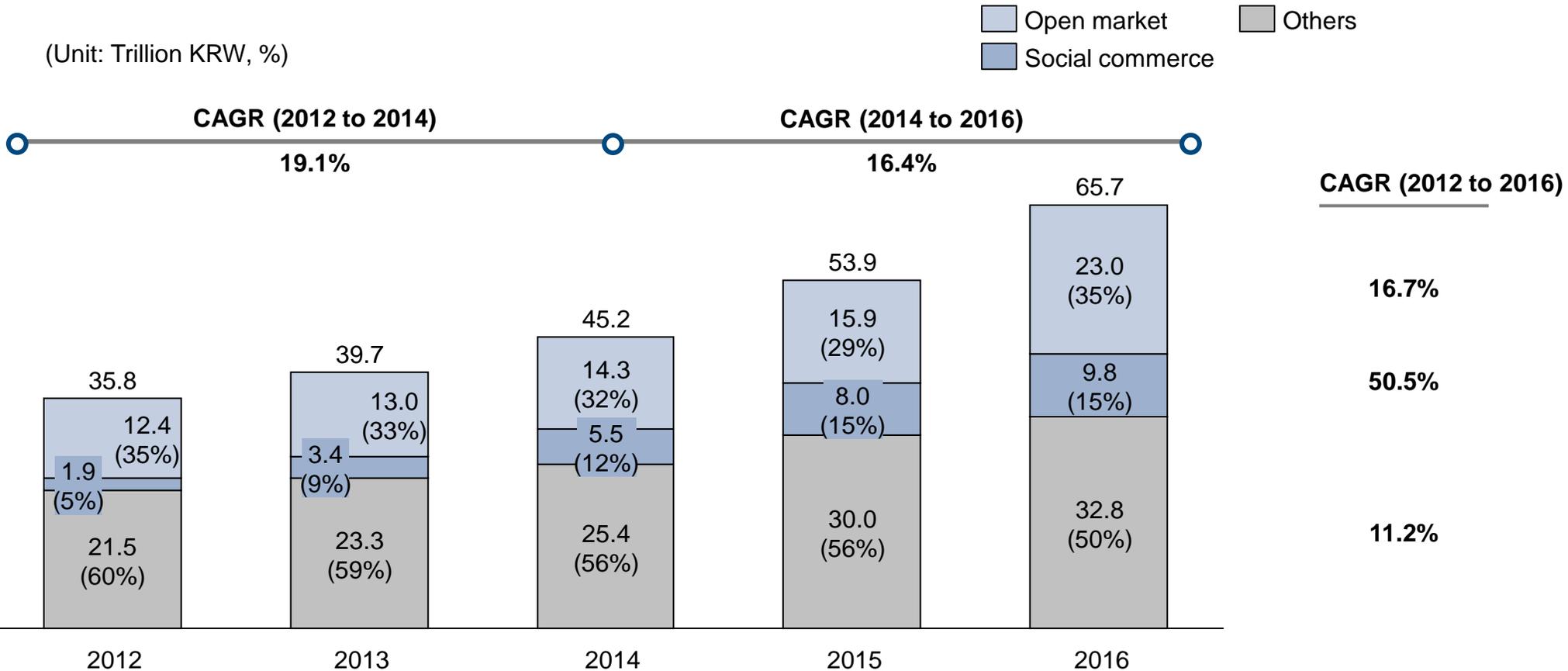


Source: NRI based on data from Korea Online Shopping Association

# In looking at the business types, the growth of online stores is led by the expansion of open market and social commerce.

Online retail market scale (2012-2016; by business type)

(Unit: Trillion KRW, %)



Source: NRI based on data from Korea Online Shopping Association, and Justice Committee Meeting

## **Korea**

Economic stagnation has affected residential and retail, but office is stable.

1 Macroeconomic Environment

2 Office Market

3 Residential Market

4 Commercial Facilities Market

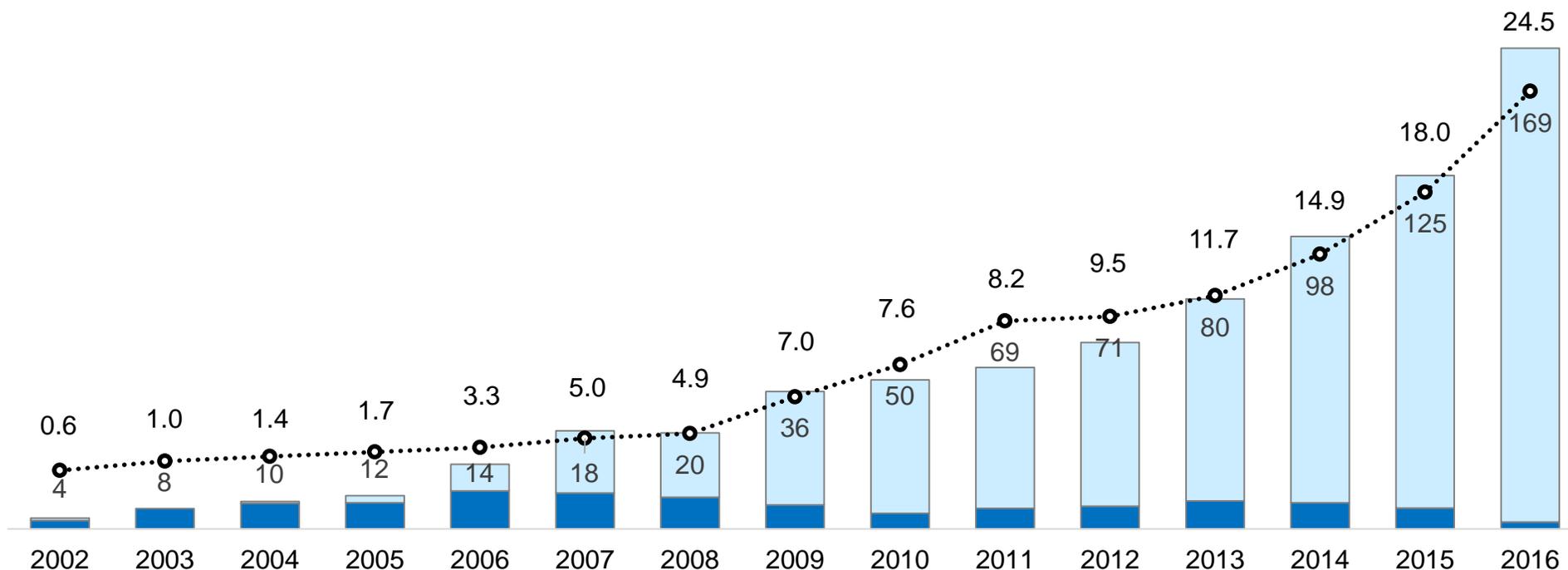
5 Real Estate Investment Market

# REITs market has expanded to 25 Trillion KRW. In recent years, REITs are mostly by Private Offers

## Trends in scale of domestic REITs market

(AUM Standards, Unit: Trillion KRW, individuals)

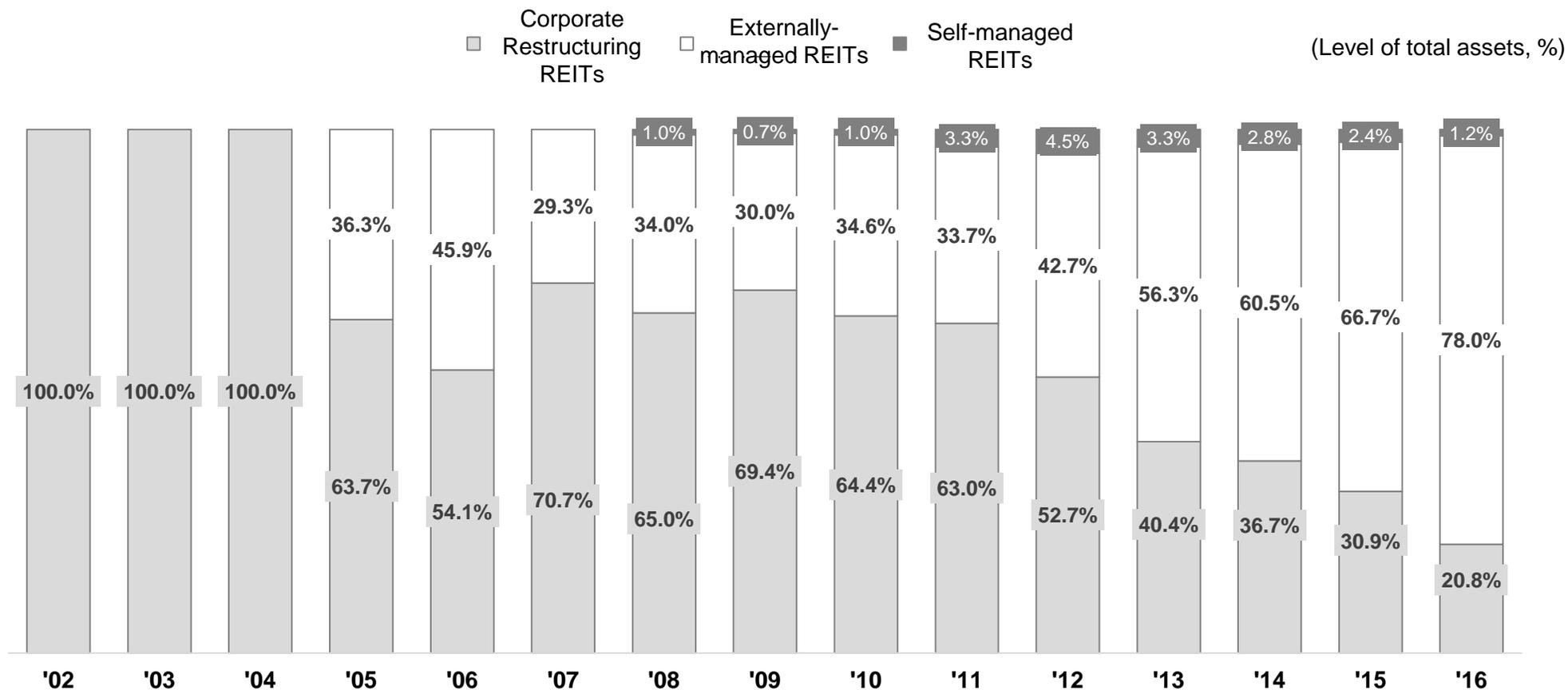
Funds ●●● REITs ■ Public Offer □ Private Offer



Source: NRI Analysis, KORAMCO, Korea Financial Investment Association

# The market has been gradually changing for the past 10 years, shifting the focus from CR-REITs to externally-managed REITs.

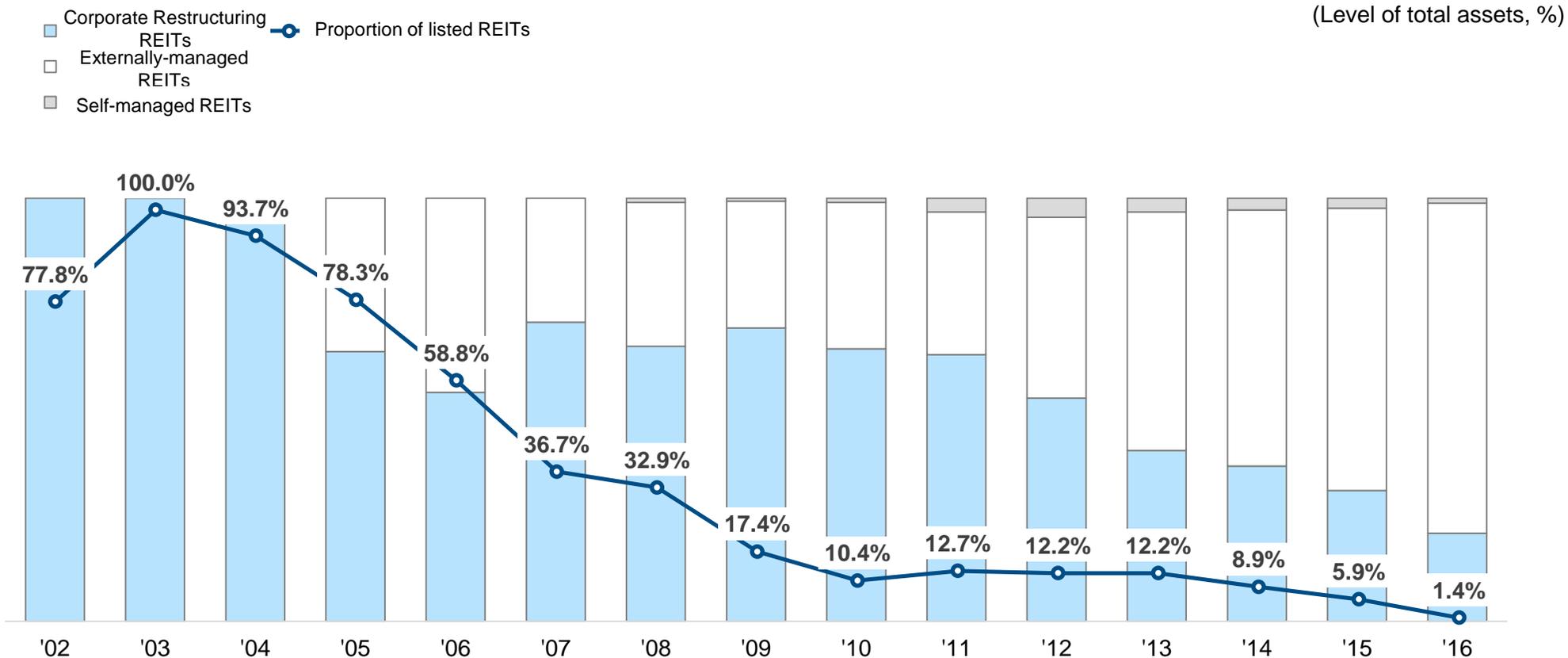
Trends in composition ratio of domestic REITs



Source: NRI Analysis, REITs Information System

# With the reduction of composition ratio of CR-REITs, the composition ratio of listed REITs is also reduced to 1.4%.

## Trends in proportion of domestic and listed REITs

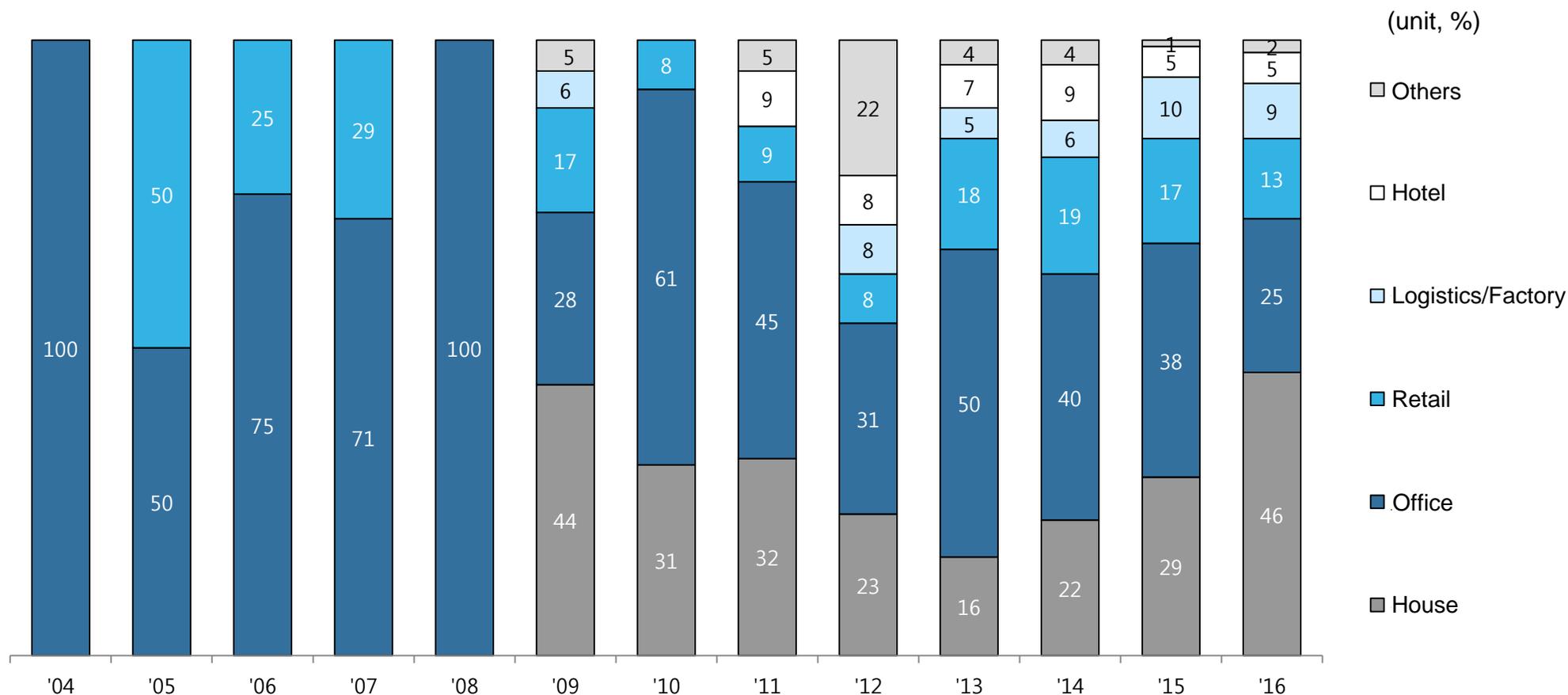


\* The real estate prices were calculated keeping the index as on December 2015 as 100, and beneficiary rate was calculated based on the Housing Price Index.

Source: NRI Analysis, Factset, Bloomberg, Kookmin Bank, Korea Investment & Securities

**In looking at the each sectors, the diversification of REITs assets is growing, including domains such as retail, logistics and hotel.**

Annual Investment Portfolio of REITs (numbers of REITs)



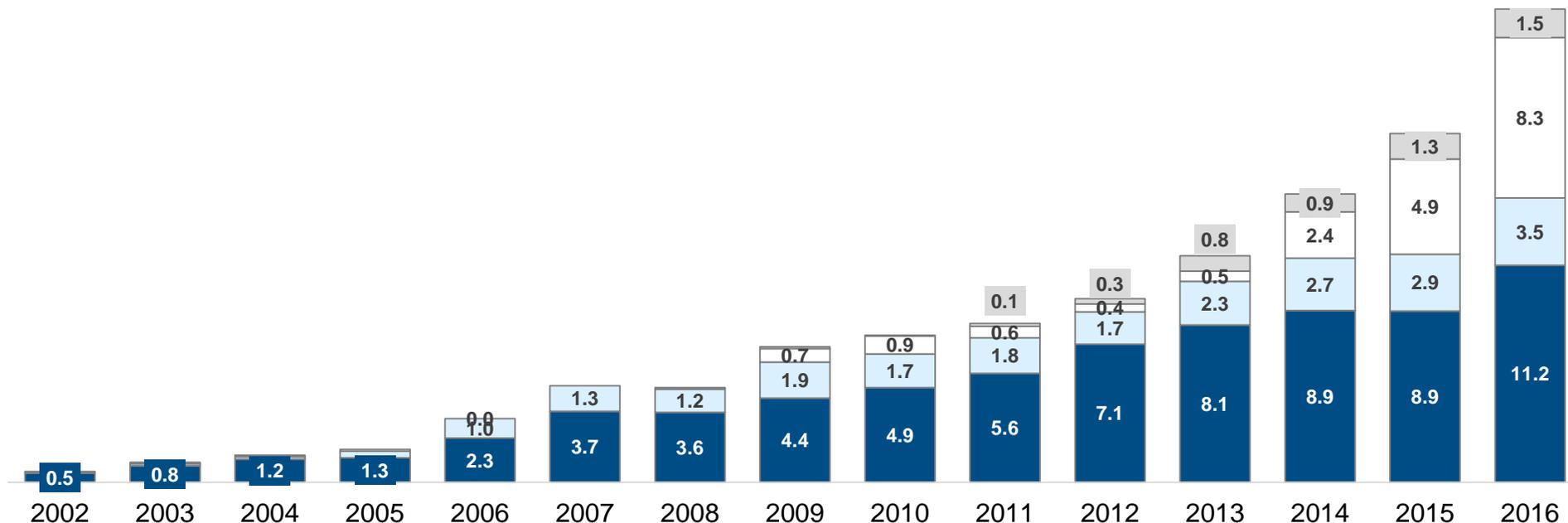
Source: NRI based on Korea Financial Investment Association, Ministry of Land, Infrastructure and Transport, Korea Association of Real Estate Investment Trusts, KORAMCO

# In looking at AUM basis, the majority of REITs' assets are still by the offices and housing.

Annual Investment Portfolio of REITs (AUM-based)

AUM standards, %

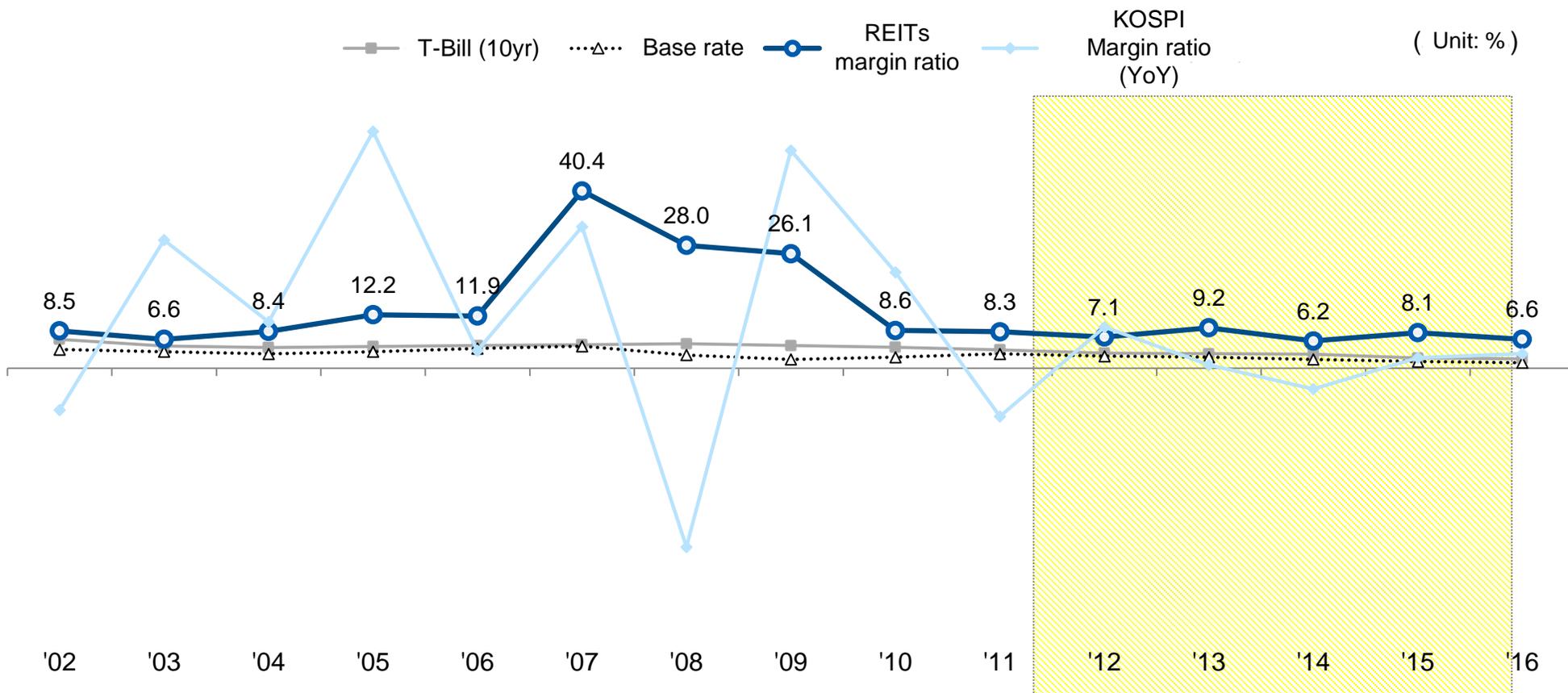
■ Office □ Retail □ Housing □ Others



Source: NRI Analysis, Korea Financial Investment Association, KAREIT

# The margin ratio of REITs is 6% range, having less fluctuations than the other financial instruments.

## REITs dividend yield ratio



Source: NRI Analysis

<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
<b>Korea</b>	Economic stagnation has affected residential and retail, but office is stable.
<b>Taiwan</b>	Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.
<b>Singapore</b>	Oversupply in each market has surfaced due to global economic slowdown.
<b>Thailand</b>	Residential and office in Bangkok and its surrounding areas are stable under economic recovery.
<b>India</b>	Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.
<b>Russia</b>	Office and retail markets in Moscow have struggled due to prolonged stagnation.
<b>USA</b>	Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

## Taiwan

Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.

1

Macro Fundamentals

2

Office Market

3

Residence Market

4

Hotel Market

## 1.Macro Fundamentals of Taiwan

**The area of the dominated territory of the Republic of China (Taiwan) is equals to that of Kyushu, and with 23 million.**

### Overview of Taiwan

#### Matsu, Kinmen Region



Capital • Taipei  
 Taoyuang City  
 Shinpei City

Taichung City

Tainan City

Kaohsiung City

#### Penghu Islands

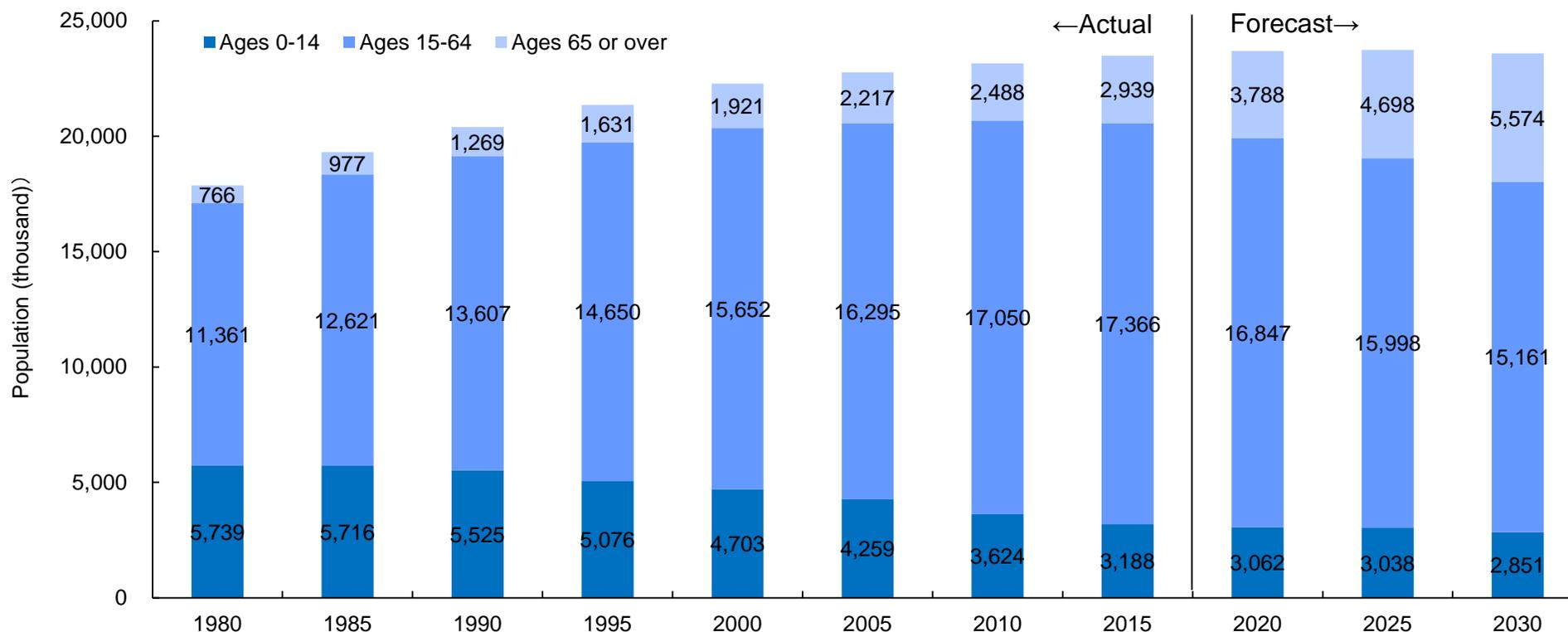


Country name	Republic of China (Founded Oct. 10, 1912) (*The relocation of the Chinese Nationalist Party to Taiwan was in 1949)
Era name	Minguo (2017 A.D.= Minguo 106)
Capital	Taipei City (Population: 2.69 million)
Major cities	Shinpei City (Population: 3.98 million) , Taoyuang City (2.17 million) , Taichung City (2.78 million), Tainan City (1.89 million), Kaohsiung City (2.78 million)
Area	Approx. 36,197 km <sup>2</sup> (2016, A bit little smaller than Kyushu , Japan)
Population	Approx. 23.55million (as of Jul. 2017)
Ethnic Composition	Han Race 98% , Aboriginal 2%
Currency	New Taiwan dollar (NTD) 1 NTD=Approx. 3.66 yen (As of Jul. 2017)
Nominal GDP	USD 529.9 billion (2016)
Nominal GDP per capita	USD 22,540 (2016)
No. of Japanese residents	21,887 (as of Oct. 2016)
Number of Japanese companies	Japanese Chamber of Commerce and Industry in Taipei member firms: 466 (Mar. 2017)
Number of travelers between Japan	From Japan to Taiwan from Japan: 1.90 million (2016) From Taiwan to Japan from Taiwan: 4.30million (2016)

# Population has been expected to reach the peak in around 2025 and after that population in Taiwan may decrease gradually.

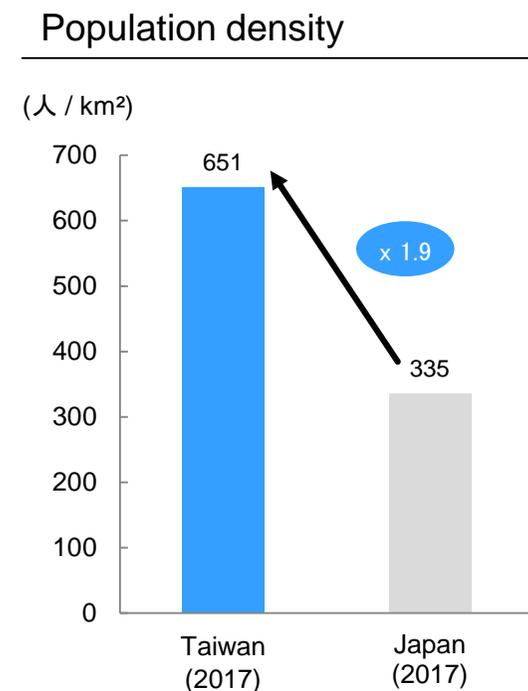
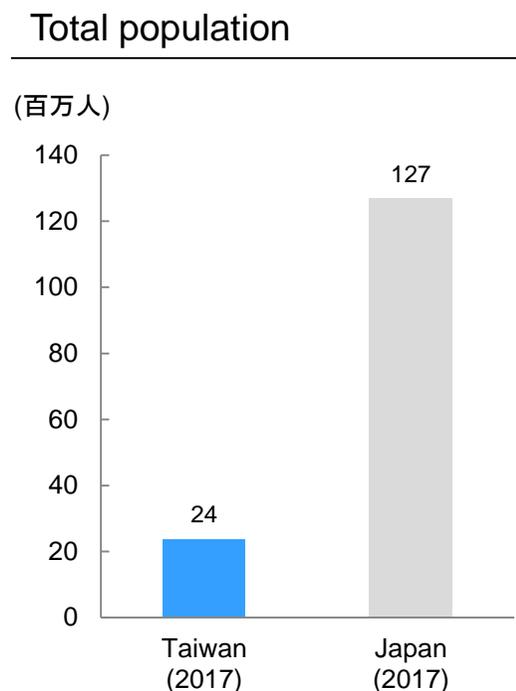
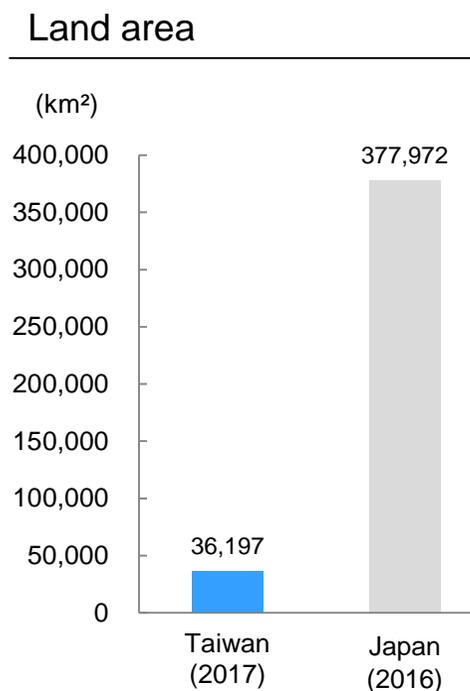
- The population of childbearing age has reached the apex.
- The total population is predicted to decrease after 2020, and thus the issue of population decline has emerged.

Population in Taiwan by age-group



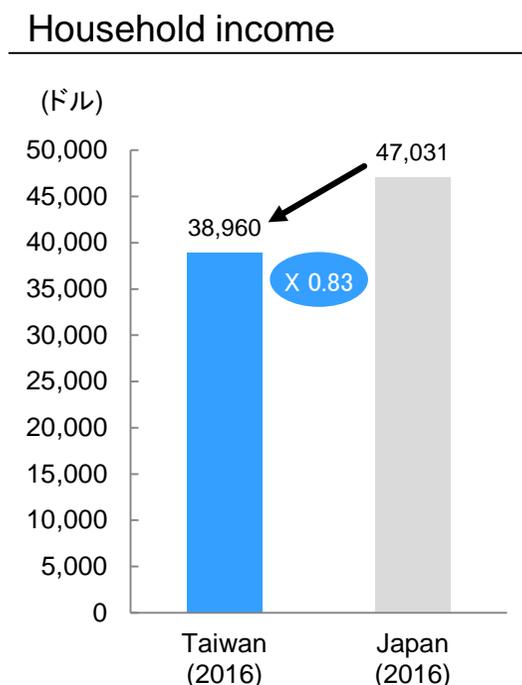
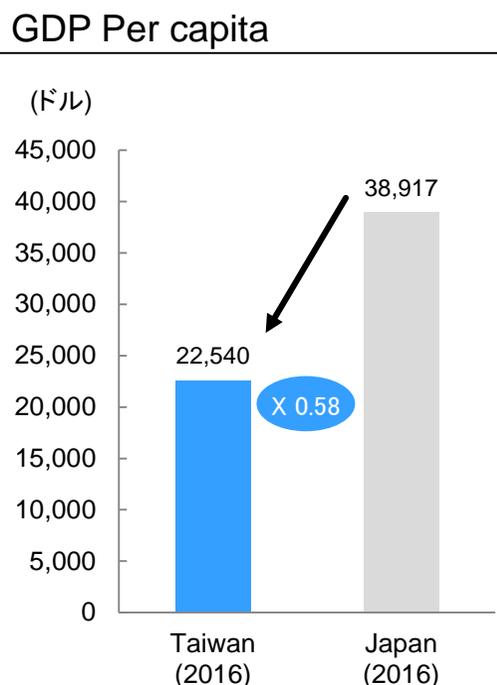
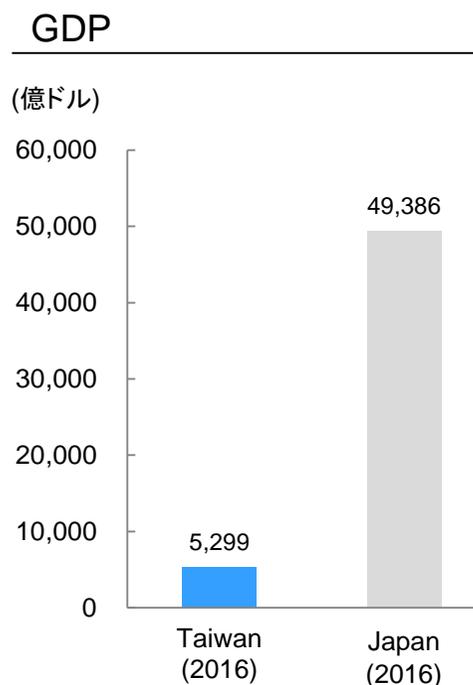
## The population density in Taiwan is approximately twice as that in Japan.

### Comparison of Taiwan and Japan in population distribution



## GDP per capita of Taiwan is about 67% of that of Japan, and income level is 83%.

### Comparison of Taiwan and Japan in the scale of economy

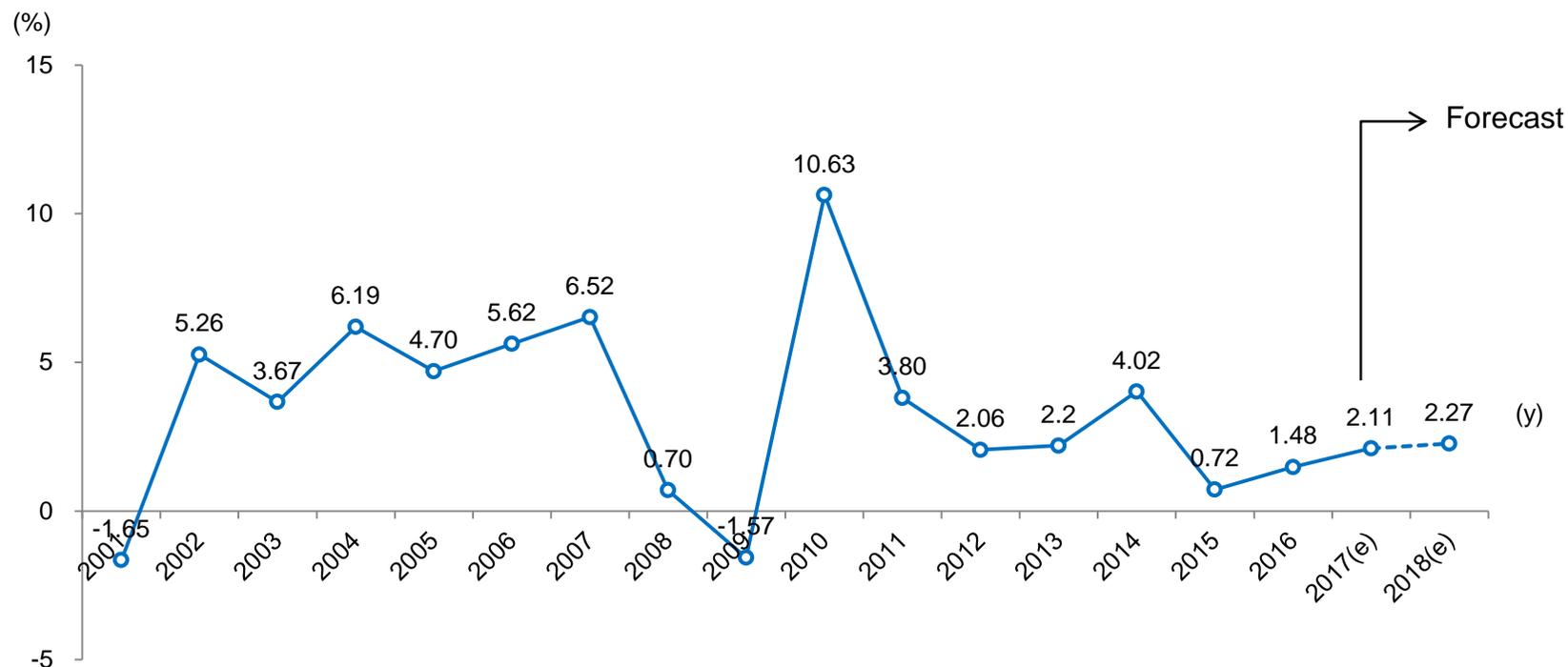


Exchange rate (Date: Dec. 2015)  
1USD = 116.05 YEN  
1USD = 32.171 NTD

## Taiwan's GDP growth rate slightly declined at the level of around 1.5%; while is expected to increase 1.22%.

- Taiwan's economy showed negative growth during IT bubble of 2001 and the financial crisis after Lehman Shock of 2009, but it quickly returned to stable growth trend.
- Since 2010, European debt crisis has worsened the global economy. In the meanwhile, U.S. Domestic manufacturing has growth and the China's "Red Supply Chain" has risen. Accordingly, Taiwan's export decreased, which causes decline in GDP growth rate.

### GDP growth rate in Taiwan



# The cross-strait relationship has improved greatly since 2008. While after 2016, the interaction between these two countries may reduce.

### History of Cross-strait relationship

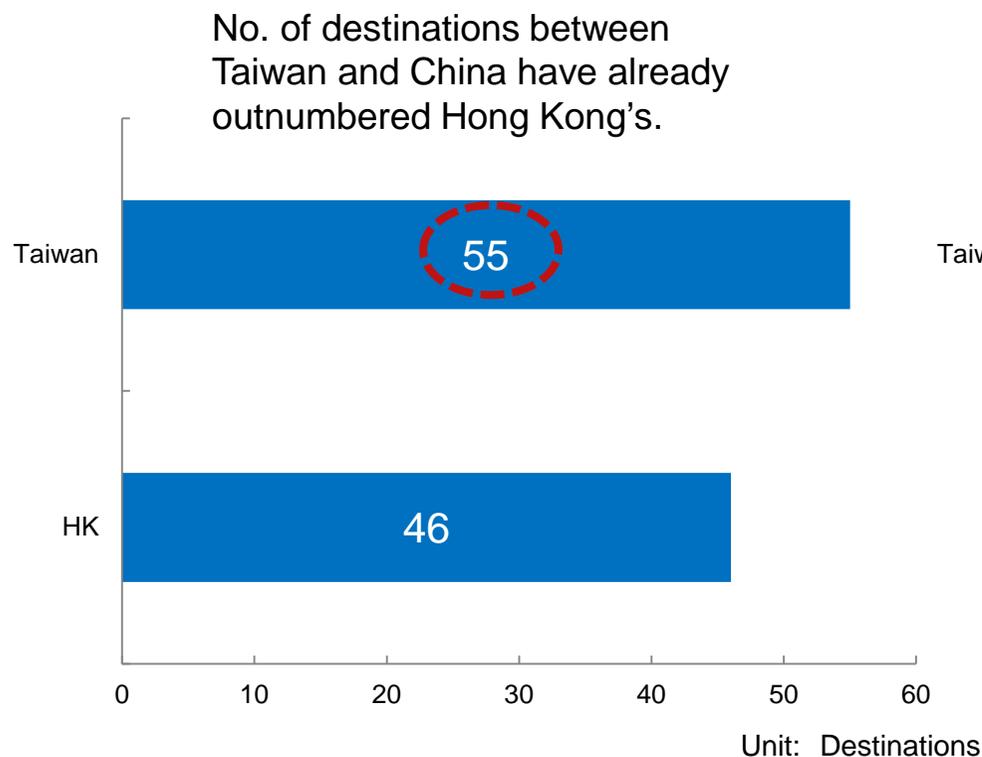
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- May 2008 Ma Ying-jeou of the Nationalist Party becomes the 12<sup>th</sup> President of Taiwan.
- Jul. **Chinese tourists to Taiwan was deregulated. (Group tour)**
- Dec. **The Three Links (Liberalization in commerce, transportation, and postal service) is implemented.**
- Dec. Cross-Strait Conference on the Cooperation and Exchange of the Chinese Medicine Industry, which is the project representing the cross-strait industrial bridge, was held in Taipei.
- Apr. 2009 The third summit meeting of cross-strait contact points was held. A memorandum on cross-strait financial cooperation (concerning banks, securities and insurances) was signed and chartered flights were decided to be increased and become scheduled.
- Jul. Chinese investment into Taiwan was deregulated. (63 kinds in manufacturing, 24 in service and 11 in public works was released to be invested by Chinese).
- Nov. Cross-Strait financial MOU was signed. (Put into effect in January 2010)
- Jun. 2010 The Fifth Chen–Chiang summit was held. Economic Cooperation Framework Agreement (ECFA) was signed and 267 China’s products and 539 Taiwan’s products are listed in the tariff concessions.**
- Jan. 2011 Started waiving import tariffs (so-called Early Harvest list).
- Nov. Both sides agreed on industry cooperation in following segments (LED, Municipal Wireless, Cold Chain Logistics, TFT-LCD, EV).
- Aug. 2012 The customs authorities of Taiwan and China signed a Cross-Strait Customs Cooperation Agreement regarding customs service, smuggling crackdown and tariff reduction.
- Aug. Both sides reached a consensus to promote a mechanism of transparency information, loosening investment limitations to promote prosperity.
- Jun. 2013 The Cross-Strait Agreement in Trade in Services based on WTO framework is signed. It proposes opening up over 100 services sectors in phases.
- Mar 2014 Taiwan's ruling Kuomintang party attempted a unilateral move in the Legislative Yuan to force the Cross-Strait Service Trade Agreement to the legislative floor without giving it a clause-by-clause review. Such an action occurred An Anti-Cross-Strait Service Trade Agreement demonstration on the next day.
- April Legislative Speaker Wang Jin-pyng visited the occupied parliament chamber and promised to postpone review of the trade pact until legislation monitoring all cross-strait agreements has been passed
- May 2016 Since 20<sup>th</sup> May 2016, Ing-wen Tsai has begun her presidency and claimed that the relationship between Taiwan and China in the next four years will remain steady.

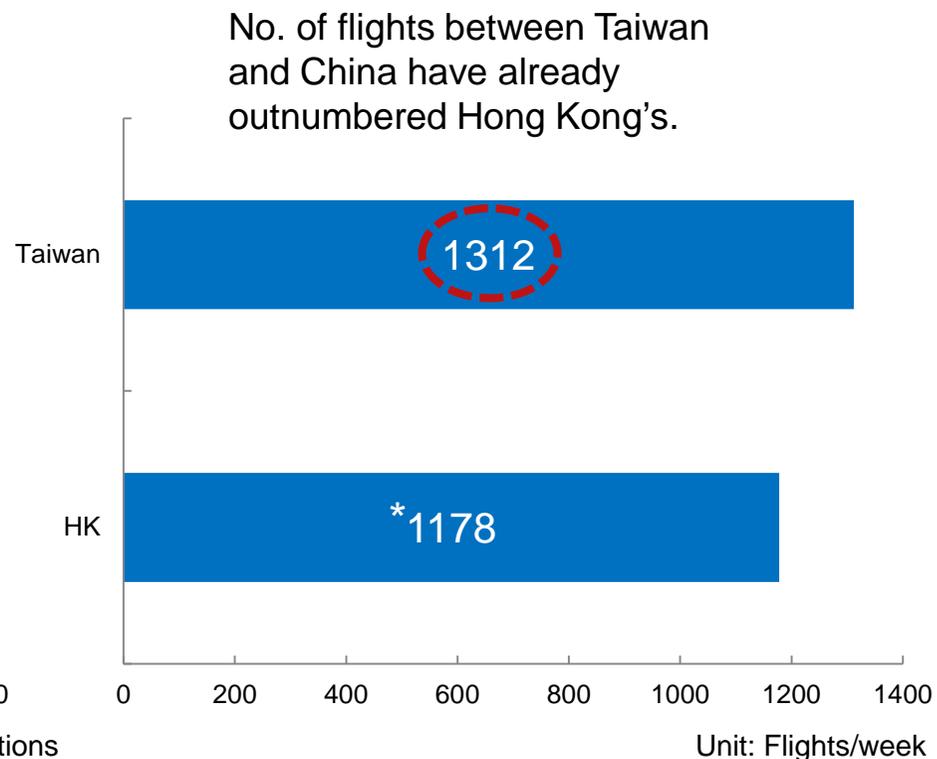
## 1. Macro Fundamentals of Taiwan

**Although the current Taiwan–China relation is not as warm as before, the number of flight between these countries is higher than between Hong Kong and China.**

No. of Destinations in China 2017



No. of flights to China 2017



\*The estimation is based on the public release the of Civil Aviation Administration of China

## Taiwan

Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.

1 Macro Fundamentals

2 Office Market

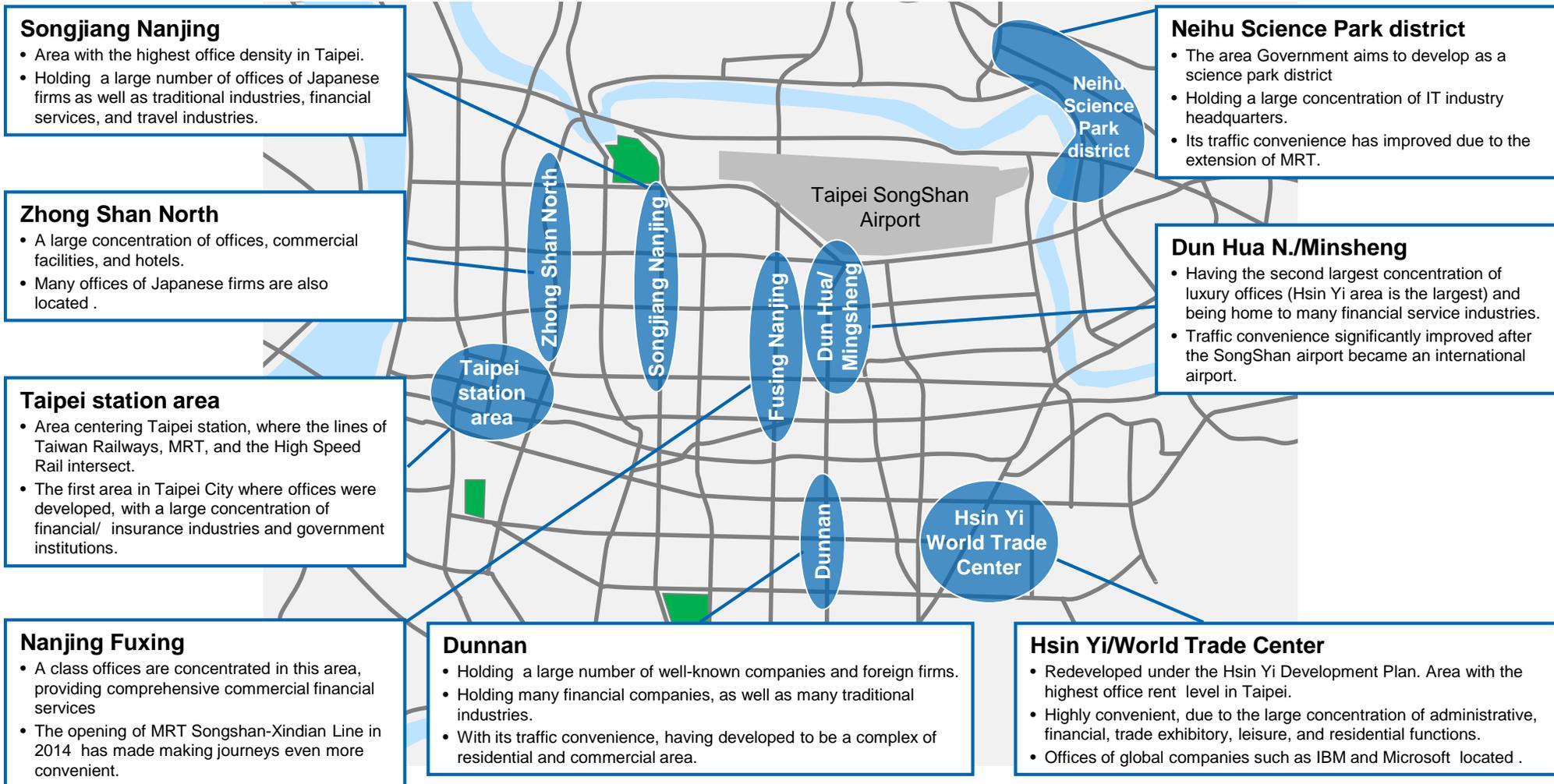
3 Residence Market

4 Hotel Market

## 2. Taiwan's real estate situation (Office Market)

# Following 8 areas compose major office districts in Taipei City.

### Major office areas in Taipei City

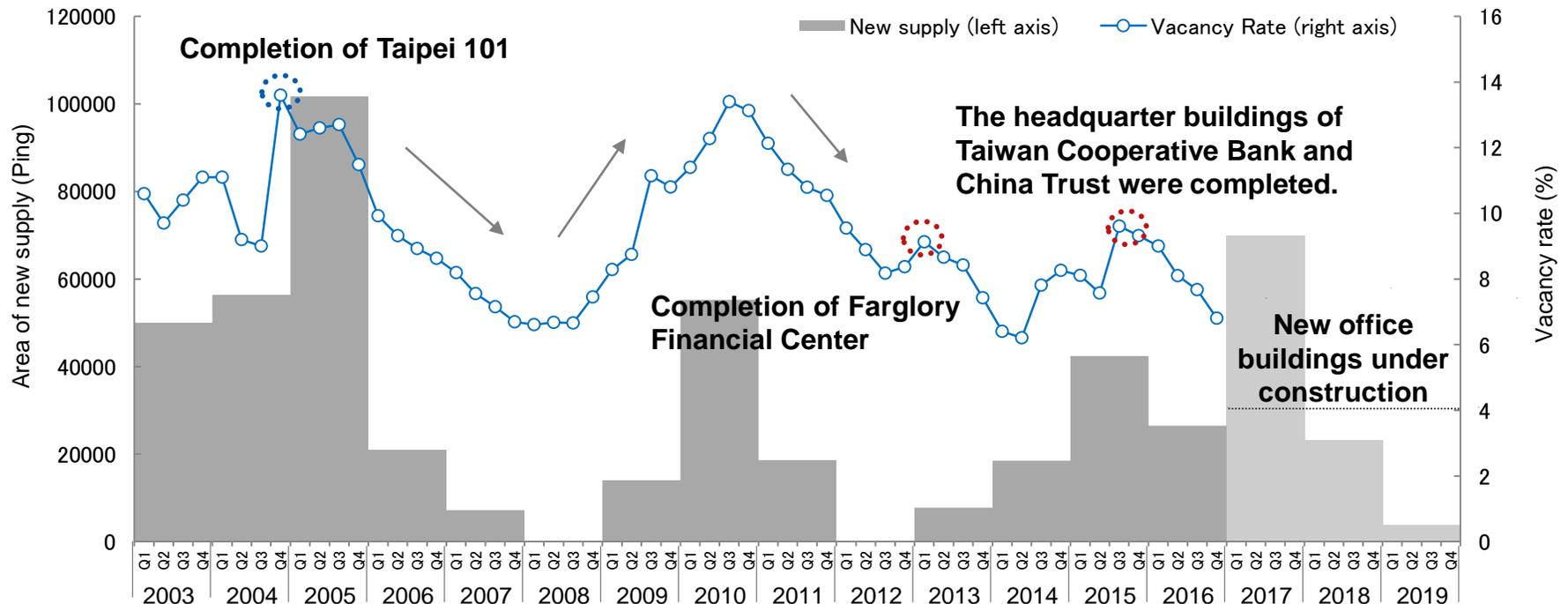


## 2. Taiwan's real estate situation (Office Market)

### Office vacancy rate rose to more than 9% in 2015.

- A number of great office buildings were completed in 2014 in Zhong Shan and Nan Gang district, and thus more than 40,000 tsubo of office spaces were provided. In the meanwhile, the office demand in Taipei grew. Consequently, there is a downward trend in the vacancy rate of office buildings, which was below 7% in Q4 2016.
- By the end of 2017 'Taipei Nan Shan Plaza' around Taipei 101/World Trade Center Station and the headquarter of Taiwan Cooperative Bank around Nanjing Fuxing Station will be completed, and thus 70,000 tsubo of new office spaces will be available. As a result, the vacancy rate of office buildings may remain high.

#### Supply of new offices and vacancy rates in Taipei City



## 2.Taiwan's real estate situation (Office Market)

**The average A-class office rental prices of CBD in Taipei is NTD2,385 per tsubo per month (around ¥8,603 per tsubo per month) .**

### Overview of major office areas (Q2 2017)

District	Supply floor space (Tsubo)	A-class office Vacancy rate (%)	B-class office Vacancy rate (%)	A-class office avg. rent (NTD/Tsubo/month)	B-class office avg. rent (NTD/ Tsubo / month)
Taipei station district	60,310	5.5%	1.5%	2,200	1,706
Chung Shan North district	32,932	--	4.7%	--	1,747
Songjiang Nanjing district	260,955	18.2%	8.4%	1,995	1,762
Minsheng / Dun Hua N. district	262,776	9.0%	5.5%	2,277	1,755
Dun Hua/Jen-Ai district	175,763	7.0%	4.2%	2,450	1,787
Xinyi district	311,328	10.2%	3.1%	3,001	1,721

Average rent: 2,385 NTD/Tsubo/month

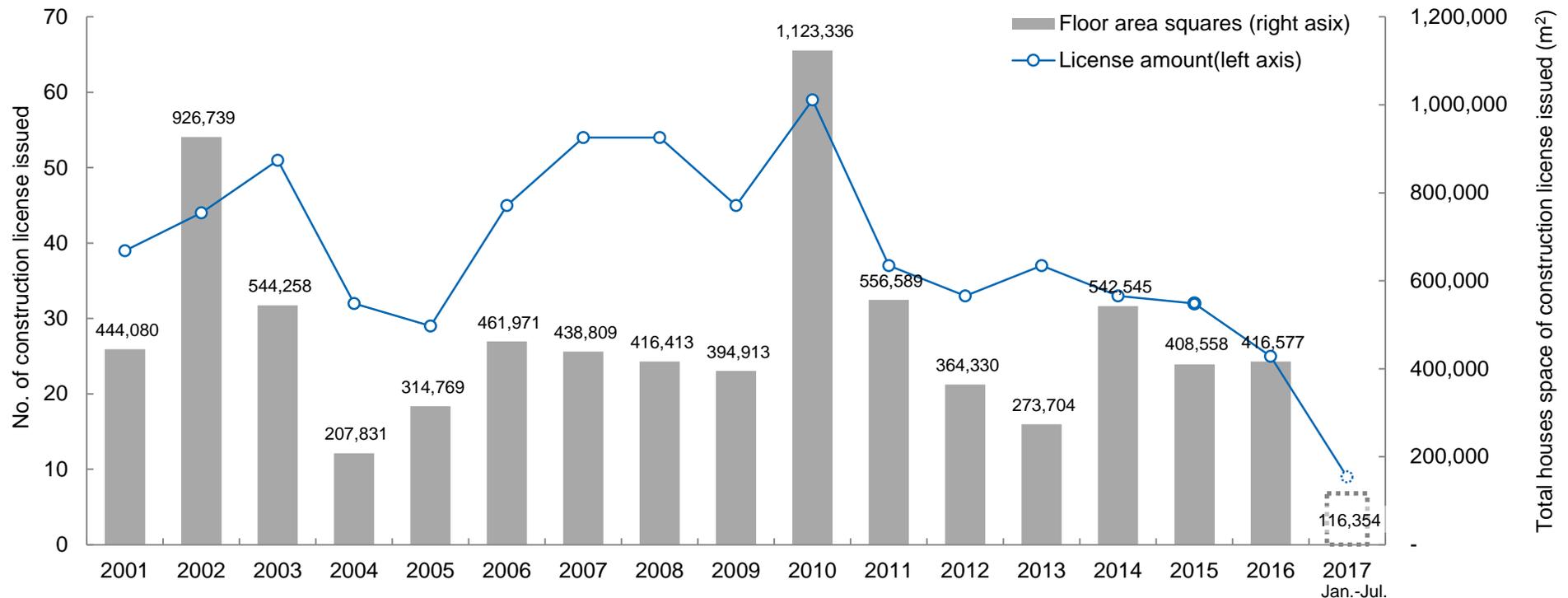
Source: NRI based on CBRE data

## 2.Taiwan's real estate situation (Office Market)

**The number of construction license issuance has reduced since 2014 and thus the supply of offices may reduce in the following year.**

- The number of office construction license issuance decreased significantly in the first half year of 2016. Accordingly, the supply of offices may reduce in the following year.

Number of office construction license issuance and total floor space licensed for construction in Taipei City





## Taiwan

Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.

1 Macro Fundamentals

2 Office Market

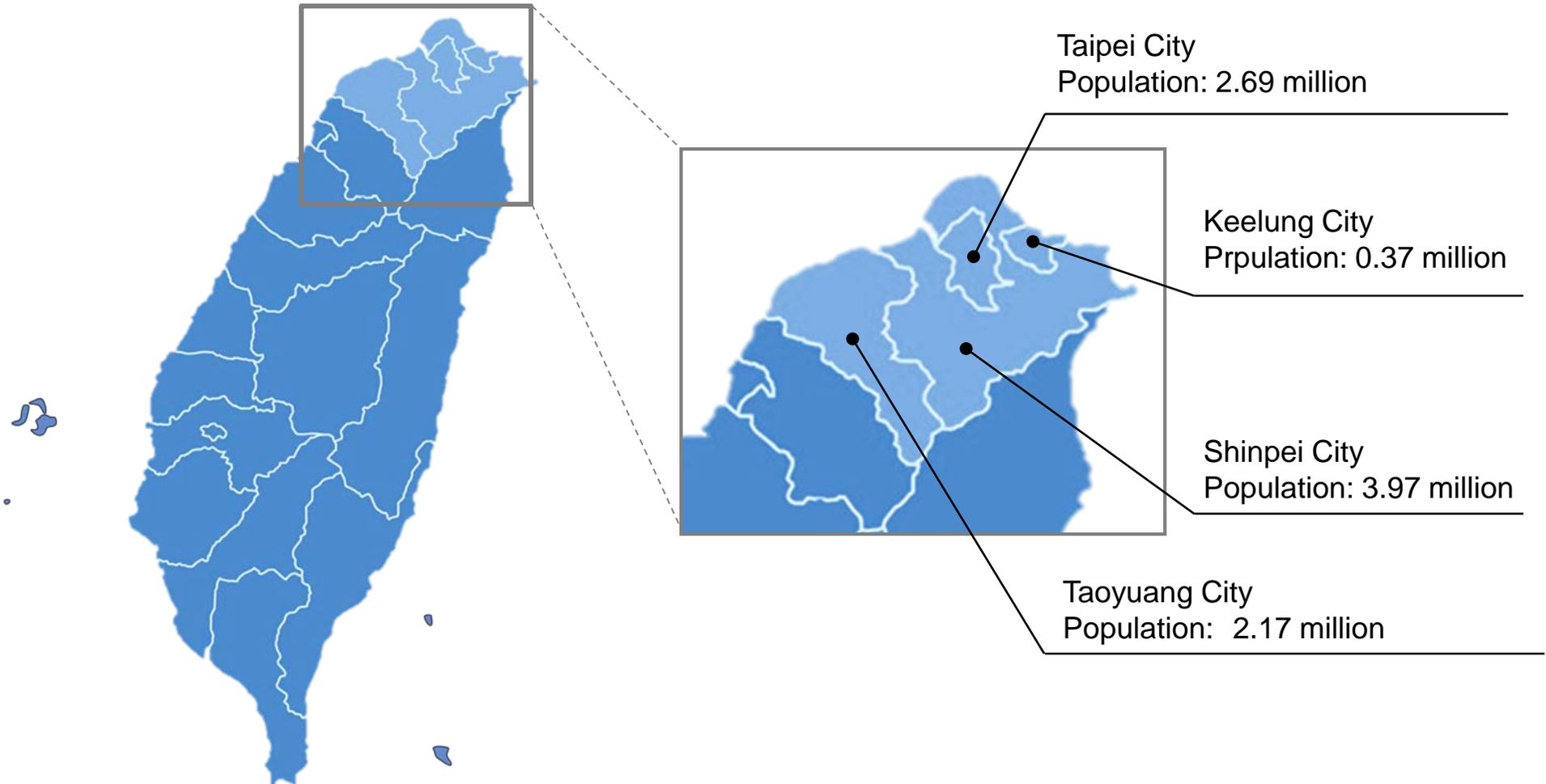
3 Residence Market

4 Hotel Market

### 3.Taiwan's real estate situation (Residential Market)

**Since Taoyuan has been designated as a special municipality, the population of it growth dramatically. The Taipei Metropolis is reshaped where 40% of total population live in it.**

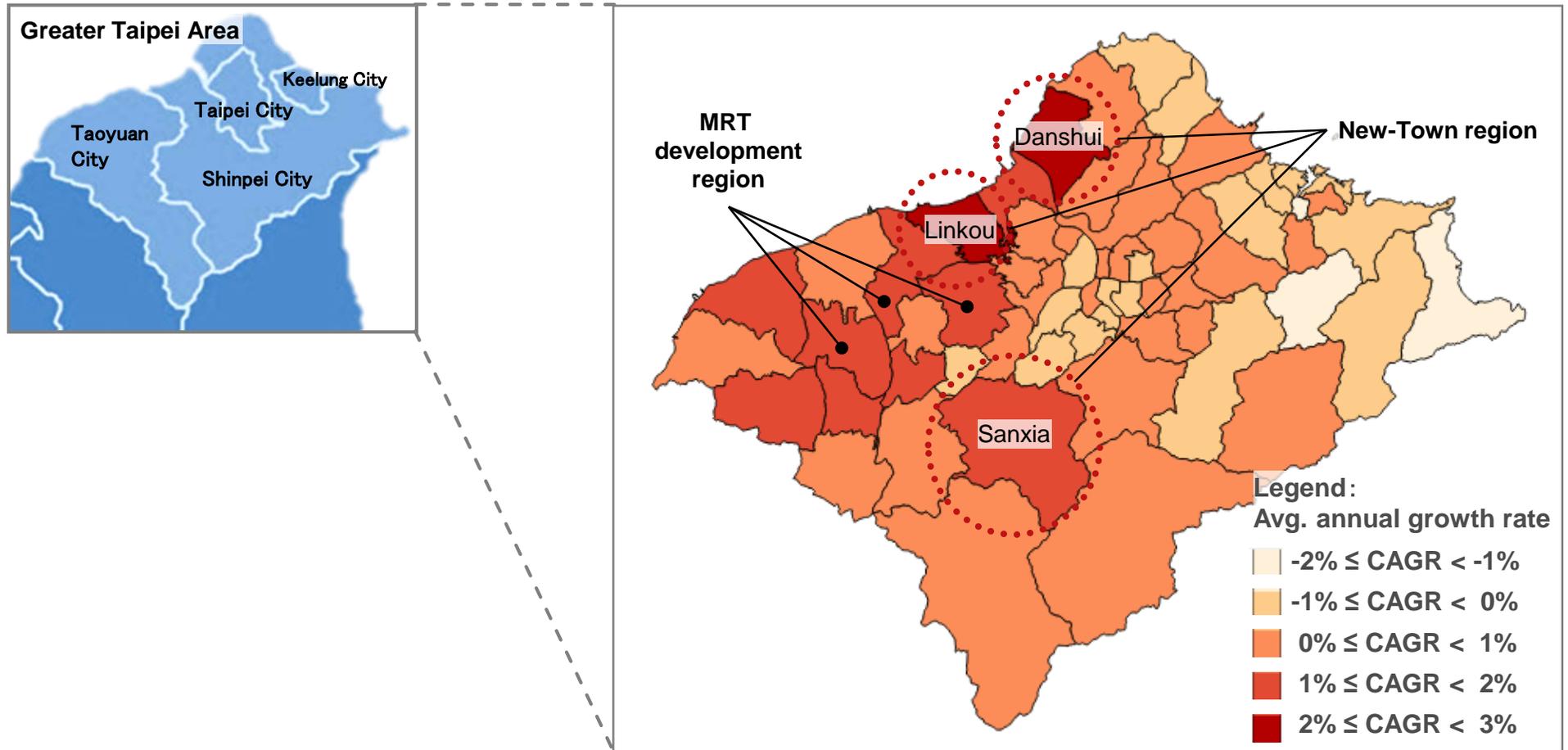
The location and population (2015) of Taipei City ,Keelung City and Shinpei City



### 3. Taiwan's real estate situation (Residential Market)

**There is a significant population growth in West Taipei Metropolitan area, especially in West Shinpei City.**

Population Changes in Taipei City and Shinpei City over the last 5 years (2011-2015)





### 3. Taiwan's real estate situation (Residential Market)

## The construction of MRT is one of the causes of the accelerating urban sprawl.

MRT construction status around Taipei Metropolitan Area



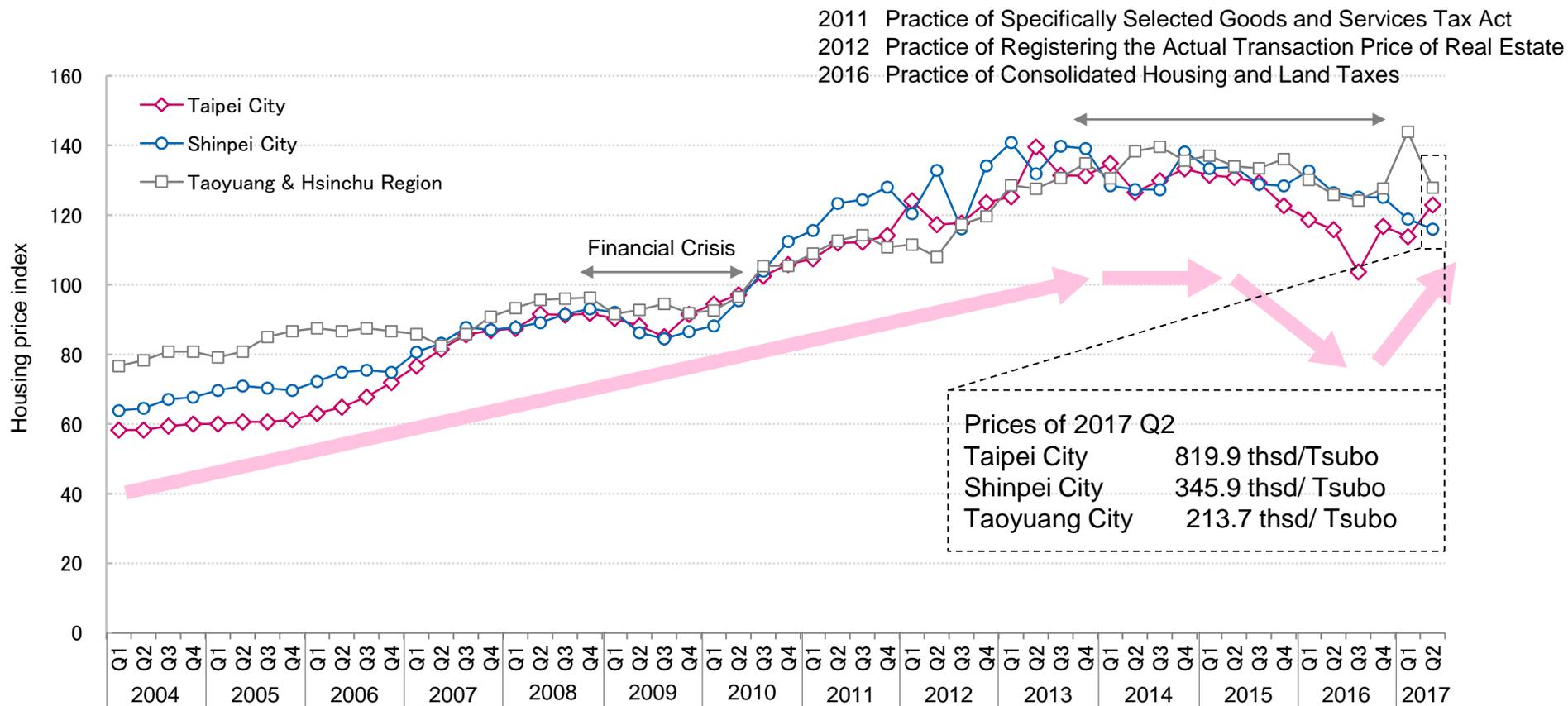
Line	Section	Year opened
Neihu-Muzha Line	Zhongshan Junior High School ⇔ Taipei Zoo	Mar. 1996
	Zhongshan Junior High School ⇔ Taipei Nangang Exhibition Center	Jul 2009
Danshui Line	Danshui ⇔ Taipei Main Station	Mar. 1997
Zhonghe Line	Guting ⇔ Nanshijiao	Dec. 1998
Xindian Lian	Taipei Main Station ⇔ Xindian	Nov. 1999
Nangang-Banqiao Line	Longshan Temple ⇔ Taipei City Hall	Aug. 1999
	Longshan Temple ⇔ Xinpu	Aug. 2000
	Taipei City Hall ⇔ Kunyang	Dec. 2000
	Xinpu ⇔ Yongning	May 2006
	Kunyang ⇔ Nangang	Dec. 2008
	Yongning ⇔ Dingpu	Dec 2014
	Nangang ⇔ Taipei Nangang Exhibition Center	Feb. 2011
Luzhou Line	Luzhou ⇔ Zhongxiao Xinsheng	Nov. 2010
Xinzhuang Line	Fu Jen Univ. ⇔ Daqiaotou	Jan. 2012
	Zhongxiao Xinsheng ⇔ Guting	Sep. 2012
	Huilong ⇔ Fu Jen Univ.	Mar. 2013
Xinyi Line	CKS Memorial Hall ⇔ Elephant Mt.	Dec. 2013
Songshan Line	Songshan ⇔ Ximen	Nov. 2014
Taoyuan Airport MRT	Taipei Main Station ⇔ Jhongli	Mar. 2017
Circular Line	New Taipei Industrial Park ⇔ Dapinglin	Jun. 2018
Wanta Line	CKS memorial hall ⇔ Huilong	Dec. 2020



### 3. Taiwan's real estate situation (Residential Market)

**The property price had increased steady since 2003, and reached the apex in 2013. And after that the housing price drops.**

#### Transition of housing price index



Note: 2010=100

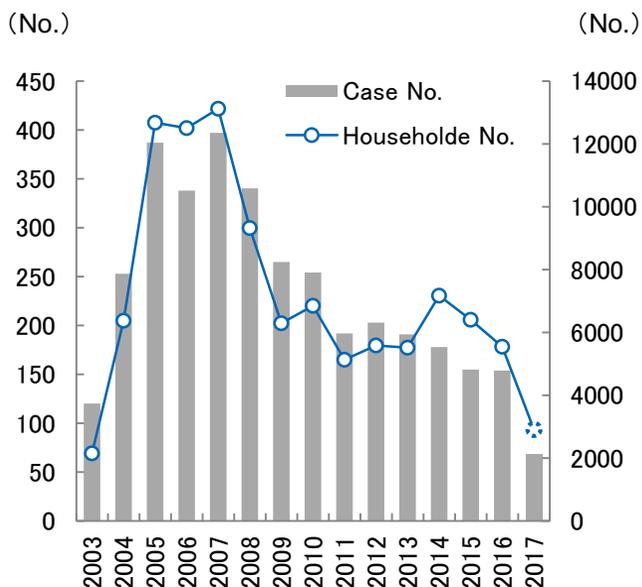
### 3. Taiwan's real estate situation (Residential Market)

## There has been a downward trend in the number of construction license issuance recently in major cities of North Taiwan.

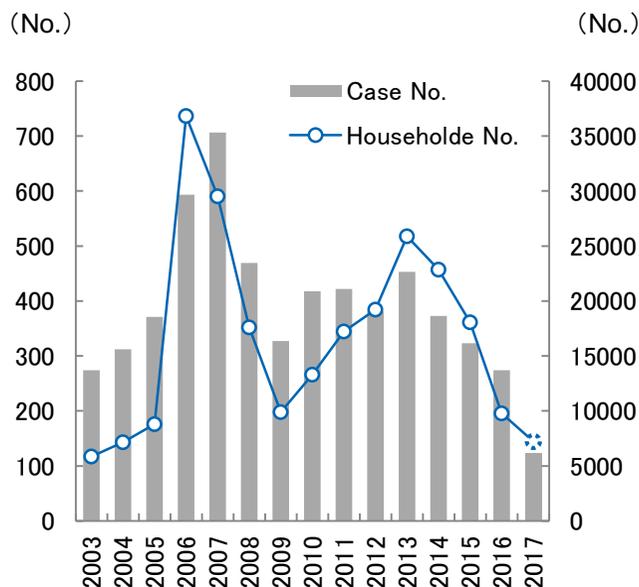
- There is a downward trend in the number of issued housing construction license of Taipei, Shinpei and Taoyuan City and thus the growth rate of new buildings are expected lower than before.
- While several mega infrastructure projects, such as the expansion of the MRT system, will be delivered in Shinpei and Taoyuan City soon, and besides Urban Regeneration Act will be modified to make the regeneration process more efficient. Therefore housing supply is expected to grow in the long-term.

### The Number of housing construction license issuance

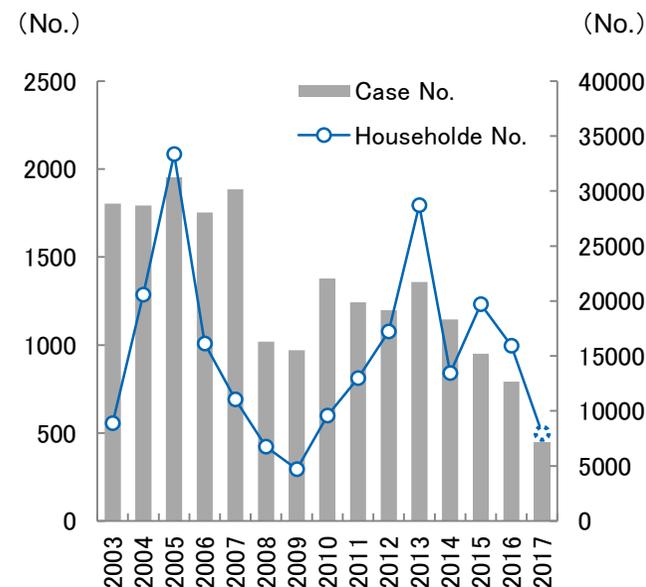
#### Taipei City



#### Shinpei City



#### Taoyuang City



Note: The statistic number of year 2017 only involve that from Jan. to Jul.

### 3.Taiwan's real estate situation (Residential Market)

**The level of the average rental price is extremely low in Taipei City and Shinpei City, and cap rates of residential buildings in these two cities ranges between 2% and 3.5%.**

Cap rates of properties in Taipei City and Shinpei City

Location	Taipei City			Shinpei City
	Zhongshan Dist (Near MRT Shuanglian Sta.)	Neihu Dist (Near MRT Songshan Sta.)	Xinyi Dist (Near MRT Taipei 101 / World Trade Center Sta.)	Banqiao Dist (Near MRT Baqiao Sta.)
Layout	2LDK	2LDK	2LK	2LDK
Area (tsubo)	21	28	25	26
Age (year)	17	11	3	8
Rent (NTD/Year)	29 thousand	32 thousand	87 thousand	41 thousand
Price (NTD)	12.37 million	15.09 million	25.80 million	16.72 million
Cap rate (%)	2.34%	2.12%	1.95%	2.45%

\*Residential building indicate the properties that above 11 floor and have the elevator

## Taiwan

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1

Macro Fundamentals

2

Office Market

3

Residence Market

4

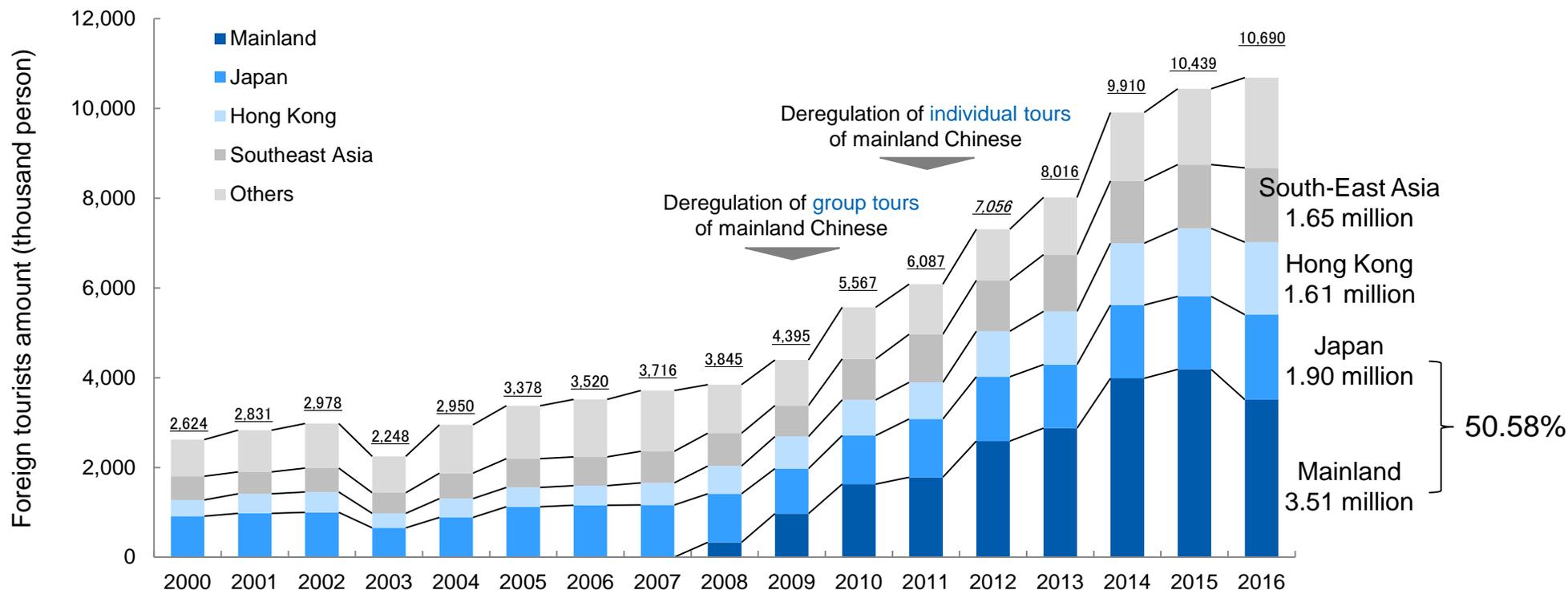
Hotel Market

#### 4. Taiwan's real estate situation (Hotel Market)

**The tourist reduces, caused by the relationship between two counties to be at a standstill. While Taiwan Government is planning to attract tourists from Southeast Asia.**

- International tourists visiting the Taiwan are composed of 50% Japanese and Chinese.
- Recently the government has planned to attract more tourists from southeast Asia, which is regarded as the third biggest market after Japan and China.

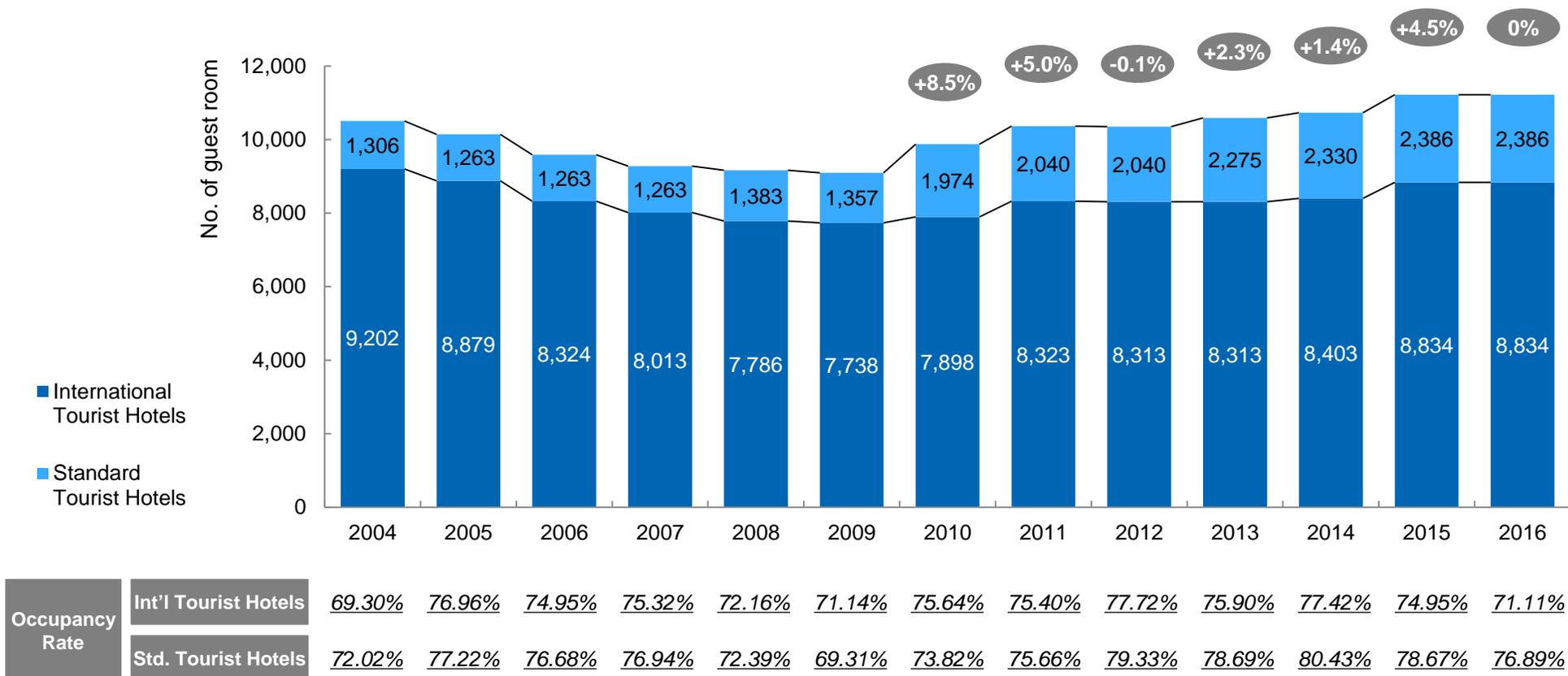
The number of foreign tourists to Taiwan (By place of residence)



#### 4. Taiwan's real estate situation (Hotel Market)

The number of hotel rooms has been increased since 2010, and the number of that reaches 11 thousand and the occupancy rate of accommodation remain high which exceeds 70%.

The number of guest rooms and occupancy rates of tourist hotels in Taipei City



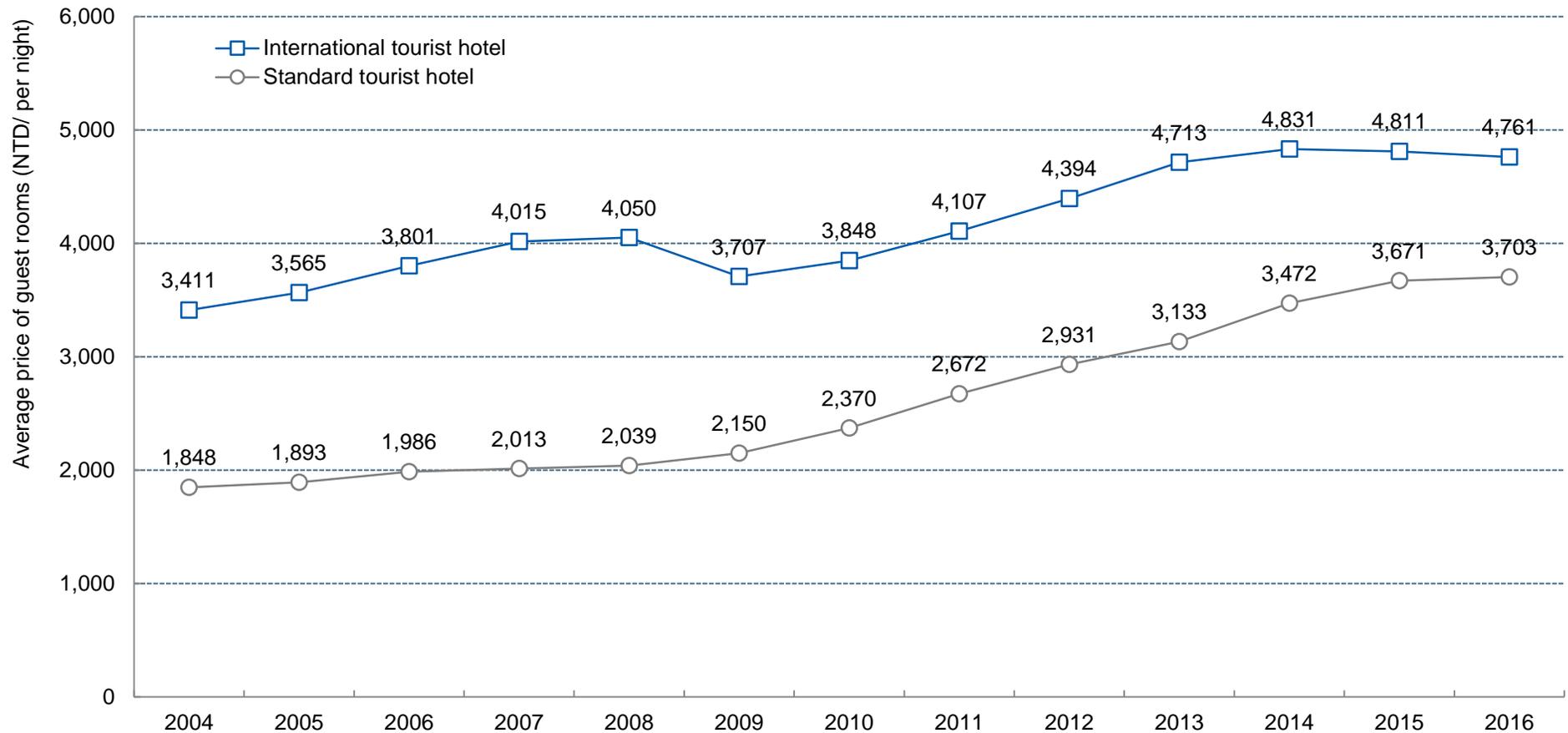
Note: Tourist hotels are hotels that meet the criteria set by the Tourism Bureau of the Ministry of Transportation and Communications, and are broken down into international tourist hotels and general tourist hotels according to their levels.

There are 27 international tourist hotels and 17 standard tourist hotels in Taipei at the end of December 2016.

#### 4. Taiwan's real estate situation (Hotel Market)

## The number of tourists visiting Taipei increases, and the hotel prices rise accordingly.

The average price of guest rooms of tourist hotels in Taipei City

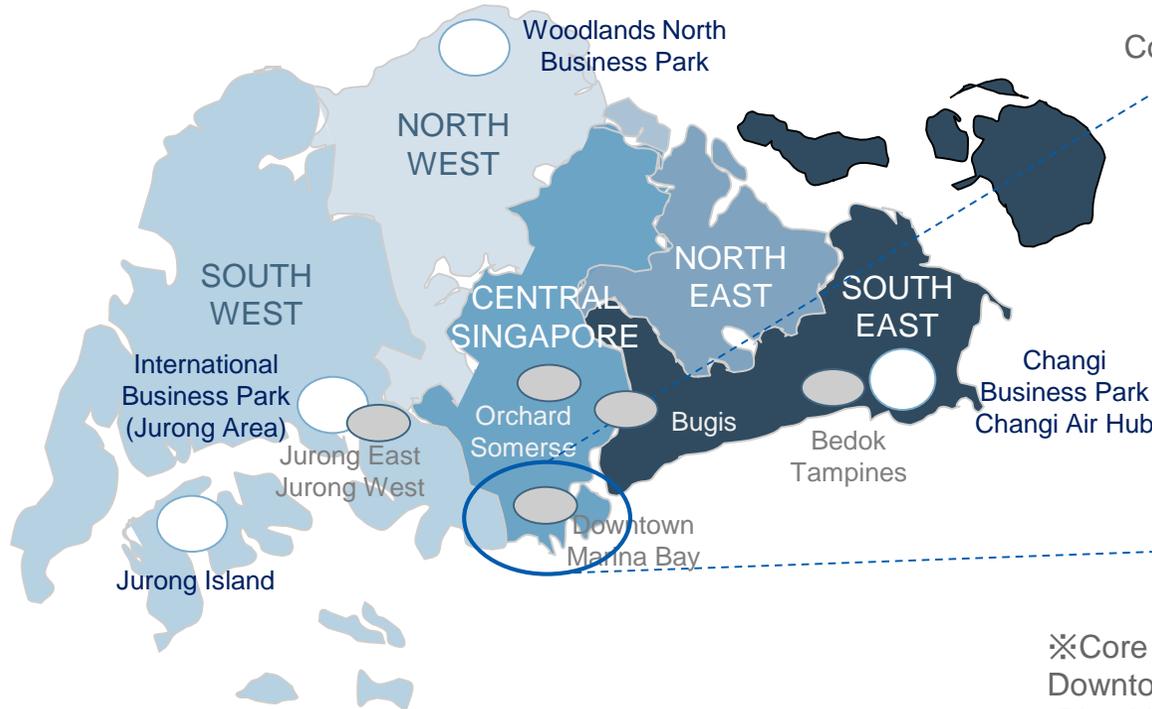


<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
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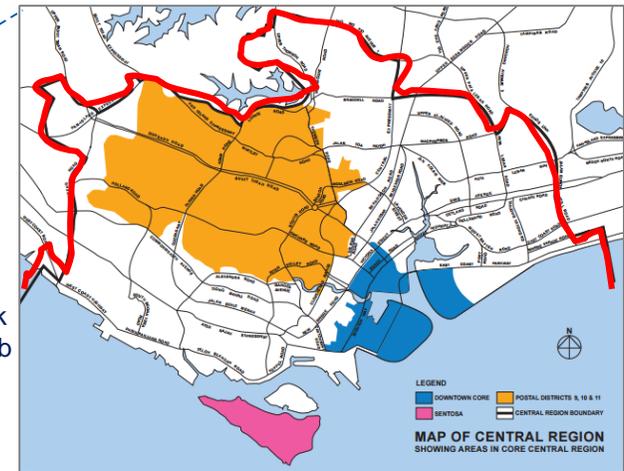
(Reference)

# Regional Map of Singapore

- The Main Commercial Area
- Industrial Park



Core Central Region and Rest of Central Region



Source:URA

※Core Central Region is postal districts 9, 10, 11  
Downtown Core Planning Area and Sentosa  
(Blue, Yellow and Pink)  
Rest of Central Region is the area within red line except  
Core Central Region  
Outside Central Region is outside the red line of the area

## Singapore

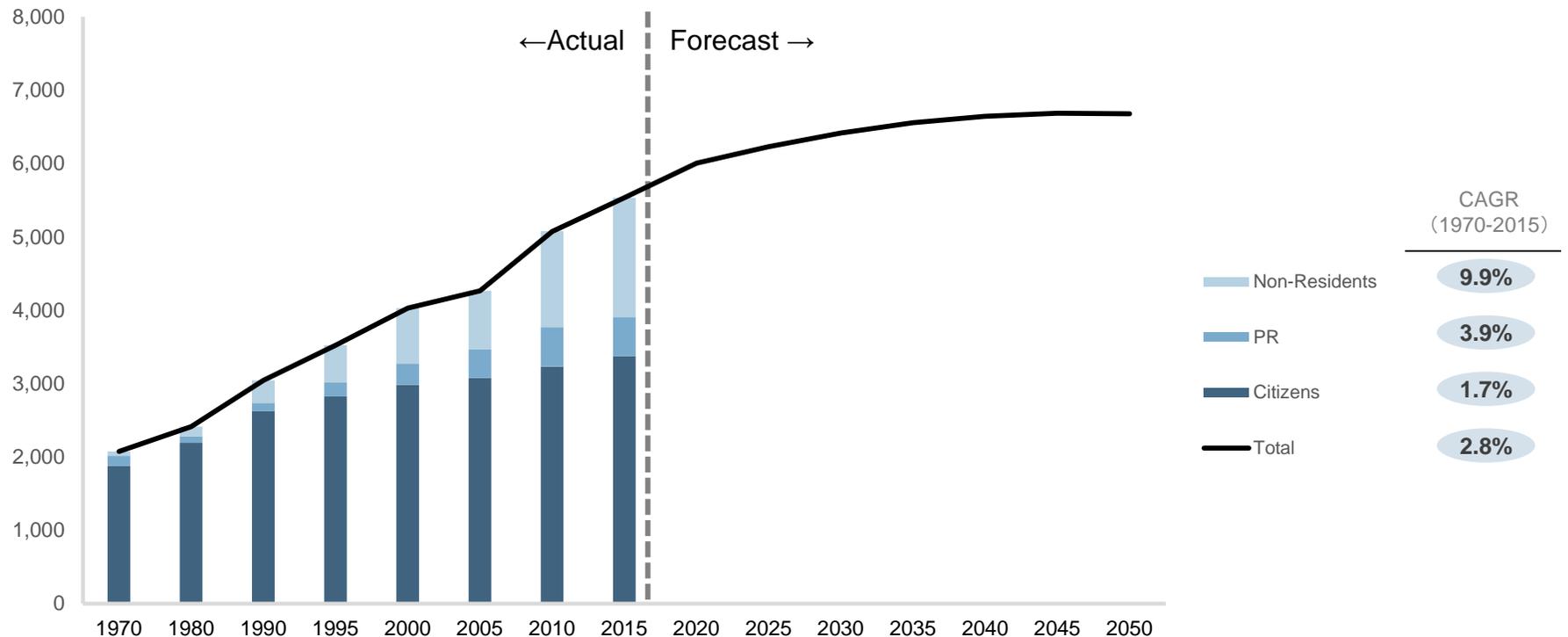
Oversupply in each market has surfaced due to global economic slowdown.

- 1 Macro Fundamentals
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- 5 Logistics Property Market
- 6 Hotel Market
- 7 Real Estate Investment Products

# Singapore's open immigration policy has allowed population to increase very rapidly, but growth is expected to be moderate with tightening of immigration policy.

- Population growth for non-residents and permanent residents began to grow rapidly from 1990s, while the growth of the citizen base is largely attributed to permanent residents taking up citizenship in Singapore.

Population in Singapore ('000)



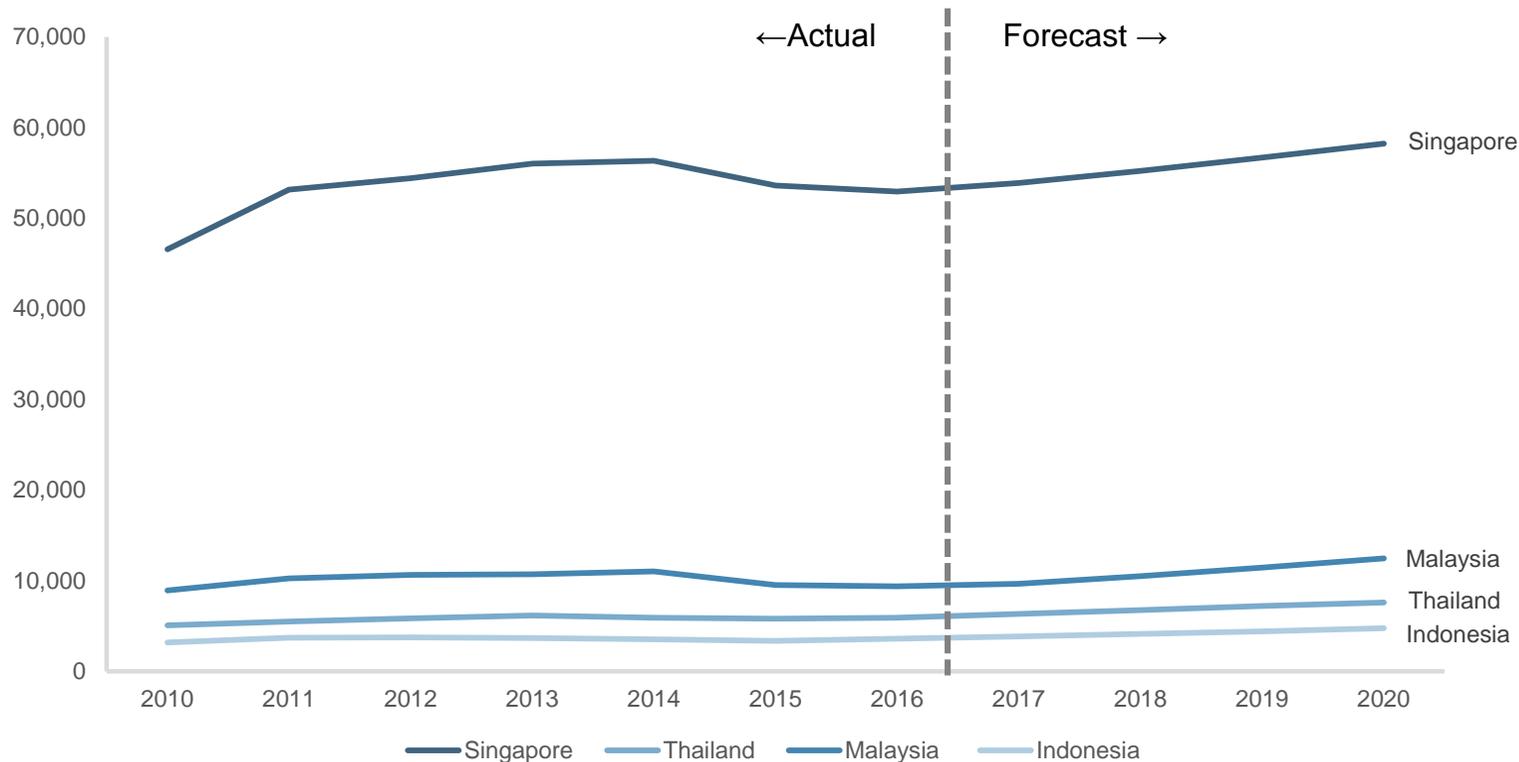
\*A balanced, moderate immigration policy is assumed for estimation of population growth from 2016-2050.

\*Non Residents includes population residing in Singapore for long-term, but do not hold PR or Citizenship (e.g. EP, Worker Pass etc.)

# Singapore has one of the highest GDP per capita in the world and far surpasses neighboring countries in the region.

- GDP per capita is also expected to continue growing from 2017-2020.

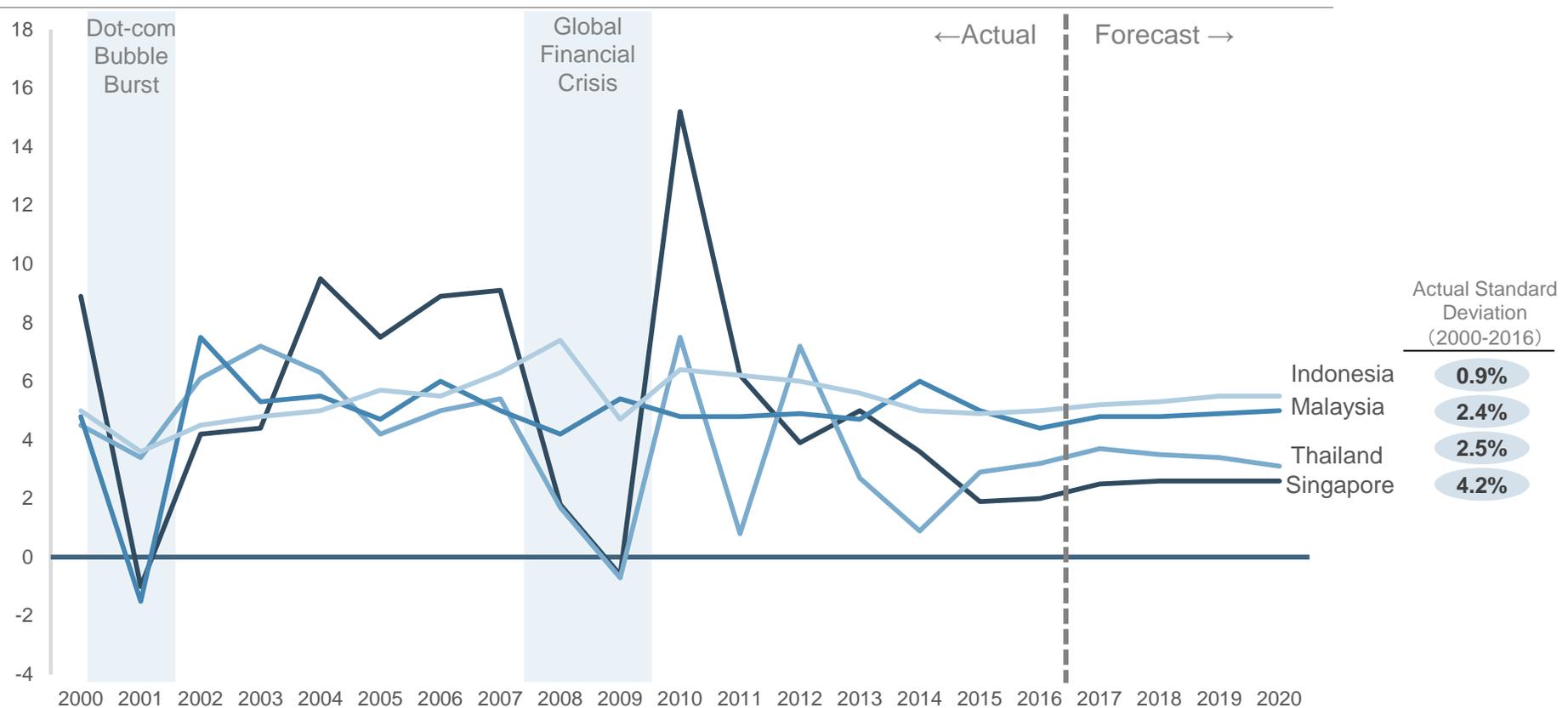
Nominal GDP per Capita (USD)



# Despite the strong GDP per capita figures, Singapore's growth rate remains volatile due to the nature of its open economy.

- Effects of business cycles exerts a more pronounced effect on GDP growth rate as the Singapore economy is closely linked to the global trade cycle.

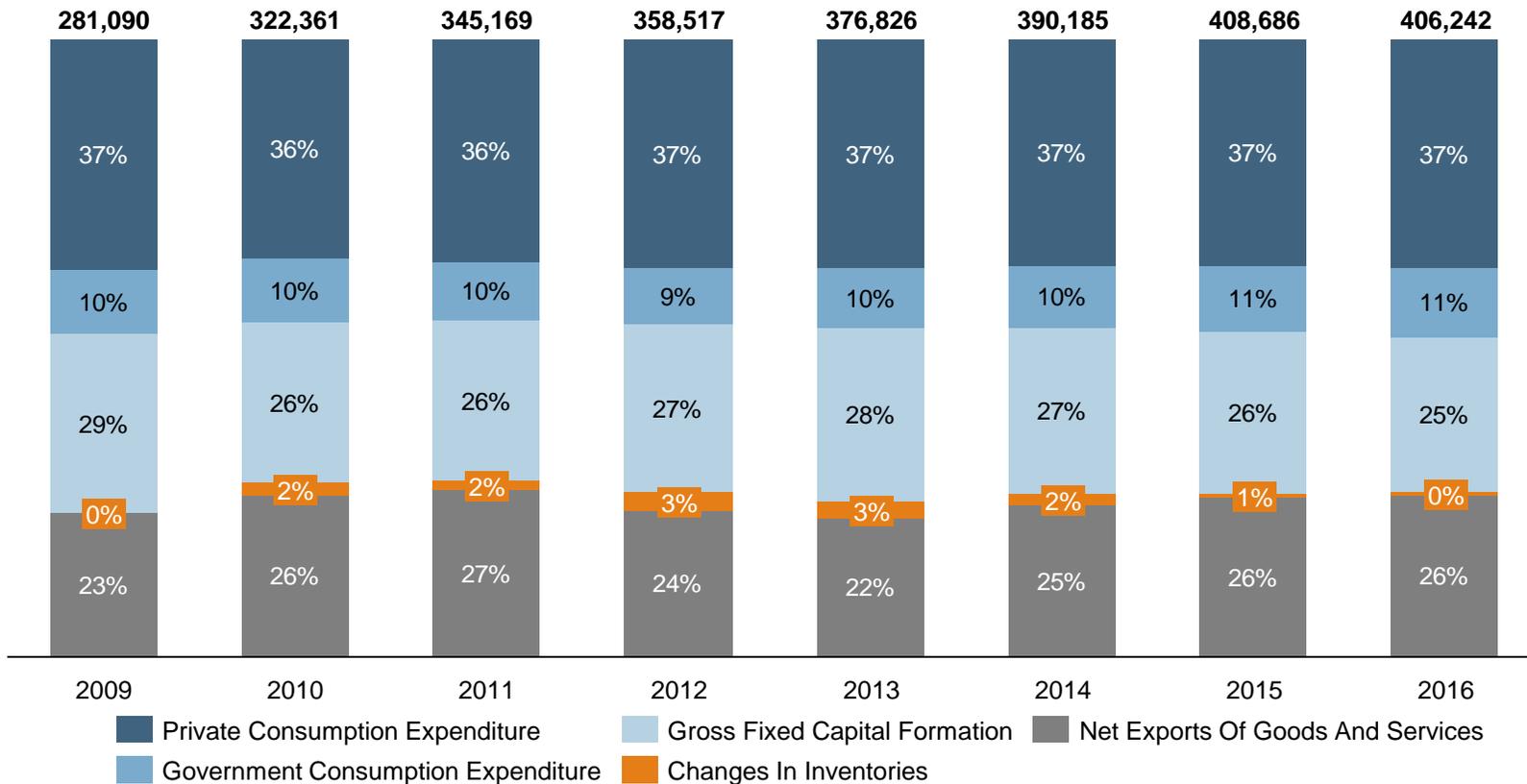
Real GDP growth rate of major economies (%)



**This is not surprising, given that net exports of goods & services constitute more than one quarter of the Singapore's economy.**

- Both domestic & external consumption (net exports of goods & services) are volatile and could potentially exhibit relatively large swings in periods of economic growth and recession.

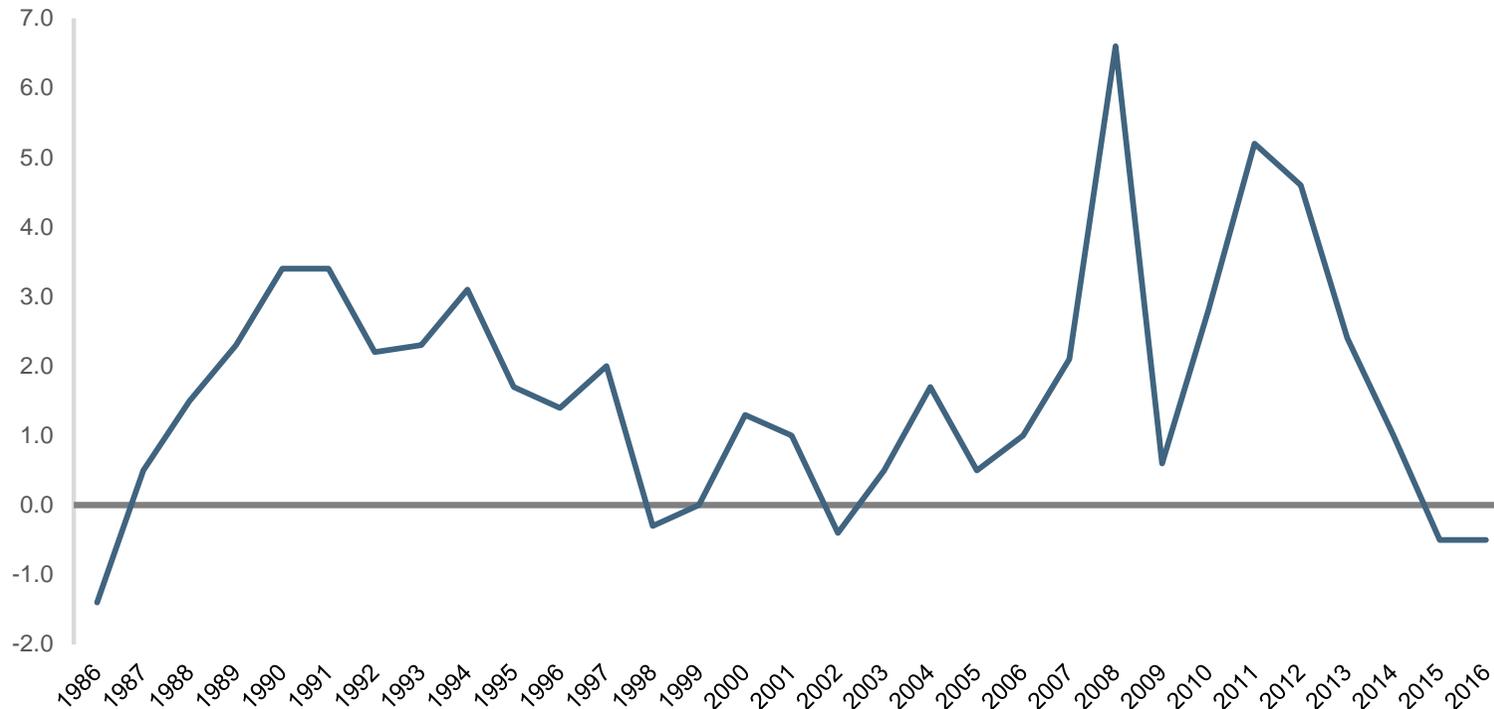
Share of GDP by Expenditure (%)



## The Consumer Price Index (CPI) growth rate stayed in the negative range in 2015 –2016 period, as a result of declining oil prices etc, but expected to recover in 2017.

- Inflation rate is expected to stay rise between 0.5% - 1.5% in 2017, based on forecasts by economists from various investment banks. This will be due to a rise in energy costs, as well as fading of the temporary disinflationary effects of budgetary measures.

*Annual y-o-y change in Singapore's CPI (%)*



## The SGD has generally been on an appreciating trend, being adjusted and watched very closely by the central bank as a tool to keep prices stable.

- The Singapore Dollar does not exhibit much volatility, as it operates under a managed float system within an undisclosed band, pegged to an undisclosed basket of currencies.

*S\$ Nominal Effective Exchange Rate (S\$NEER)*



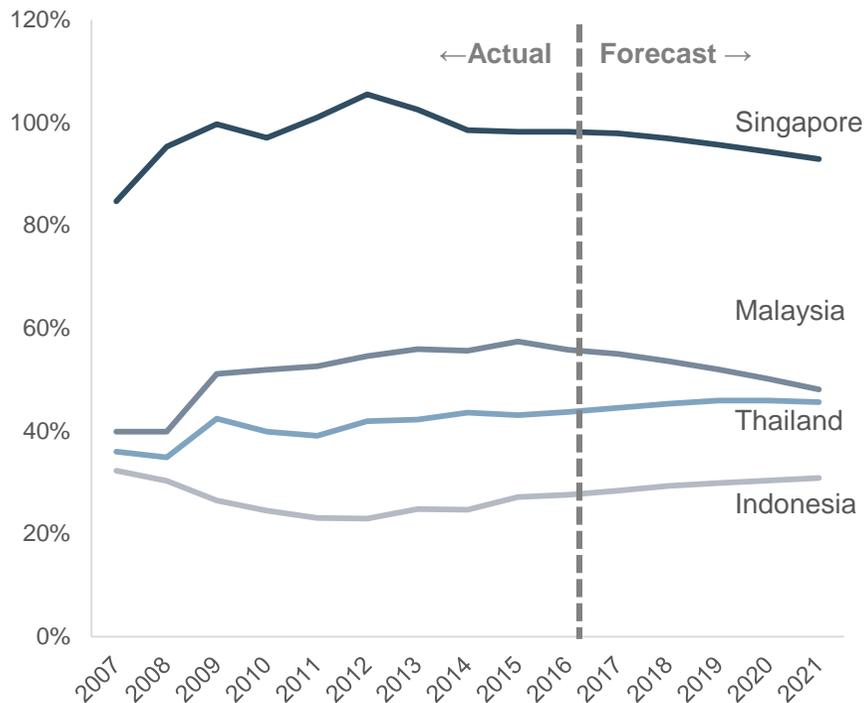
\*S\$NEER reflects exchange rates against a basket of currencies, instead of any single currency

\*Index Jan 1999 = 100

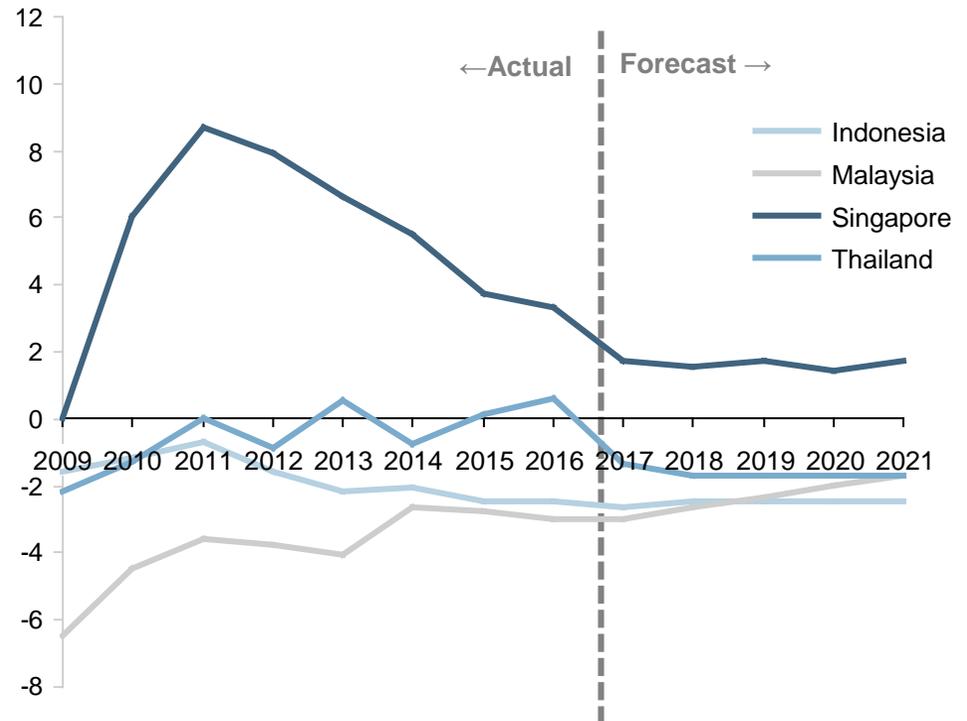
# In spite of the relatively high level of government debt, Singapore continues to be a net creditor country with AAA ratings from international credit rating agencies.

- Borrowings by the Singapore are matched by even higher levels of assets, and the country does not run any fiscal deficits.
- The government is instead, borrowing in order to issue debt securities, which are required in the domestic bond market to provide a risk-free benchmark against other corporate debt securities.

Ratio of Government Debt to GDP



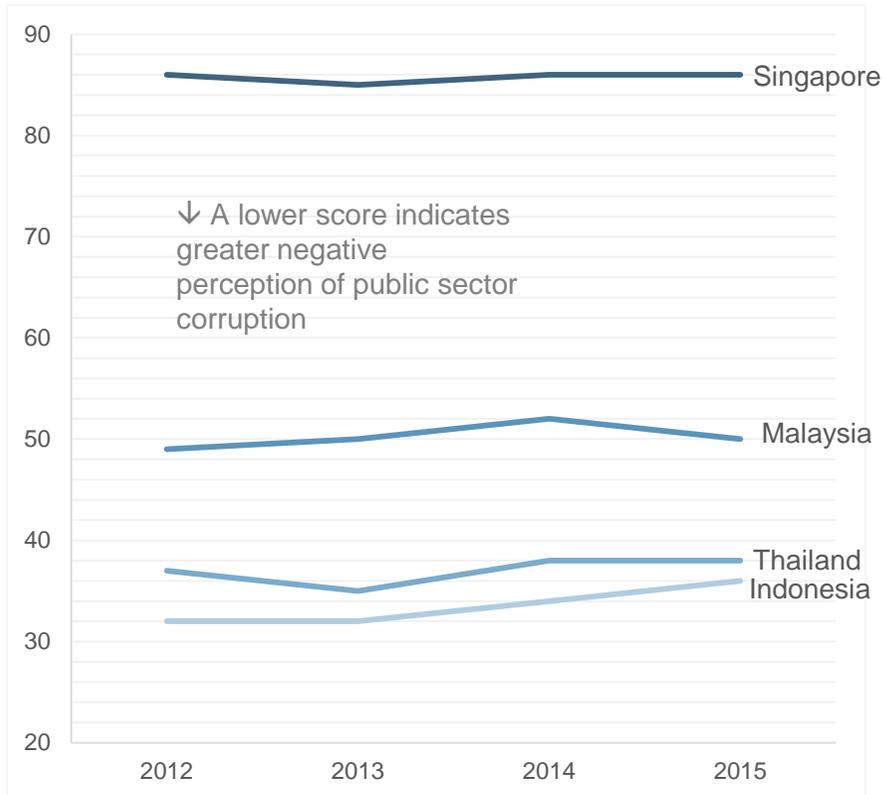
Ratio of Government Primary Net Lending/Borrowing to GDP (%)



# Consistently ranked among the top 10 countries with the lowest public perception of corruption, political risks in Singapore remains low.

■ Low political risks is one of the factors in Singapore that have contributed to a conducive environment for business & investment.

*Trend of Transparency International Corruption Perception Index among selected ASEAN Countries (2016)*



*Top 10 countries of International Corruption Perception Index (Higher ranking indicates lower risk)*

RANK	2014	2015	2016
1	DENMARK	DENMARK	DENMARK
2	NEW ZEALAND	FINLAND	NEW ZEALAND
3	FINLAND	SWEDEN	FINLAND
4	NORWAY	NEW ZEALAND	SWEDEN
5	SWITZERLAND	NETHERLANDS	SWITZERLAND
6	<b>SINGAPORE</b>	NORWAY	NORWAY
7	NETHERLANDS	SWITZERLAND	<b>SINGAPORE</b>
8	INDONESIA	<b>SINGAPORE</b>	NETHERLANDS
9	LUXEMBOURG	CANADA	CANADA
10	CANADA	GERMANY	GERMANY

## Singapore

Oversupply in each market has surfaced due to global economic slowdown.

1

Macro Fundamentals

2

Office Market

3

Residential Market

4

Retail Property Market

5

Logistics Property Market

6

Hotel Market

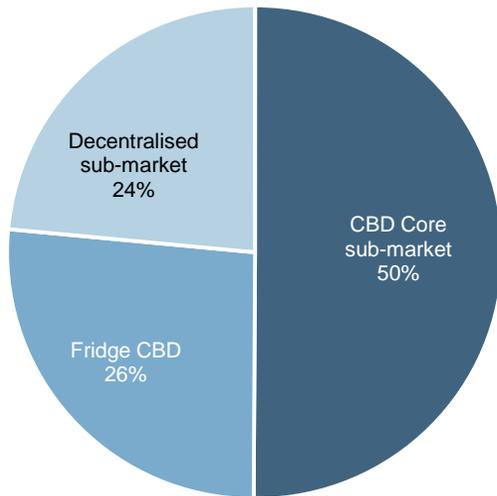
7

Real Estate Investment Products

## Office market– Geographic Area

**76% of the existing office is located at CBD area. Singapore government extends the Central Business District towards Marina Bay to support the demand of quality office spaces.**

Office Area in Singapore  
2015



**CBD Core sub-market:** Raffles Place, Shenton Way, Marina Centre, Marina Bay  
**Fringe CBD:** Tanjong Pagar, Beach Road/ City Hall, Orchard Road  
**Decentralized sub-market:** Alexandra/ HarbourFront, Thomson/ Novena, Tampines, River Valley

- Existing central business district is located at Raffles Place, Shenton Way and Tanjong Pagar
- To position Singapore as one of the leading financial hub, government plans to double the size of the existing financial center by extending towards Marina Bay
- Recent developments is expected to provide more than 1.1 million sqm of premium office space upon completion

Major Office Area in Singapore Central Business District

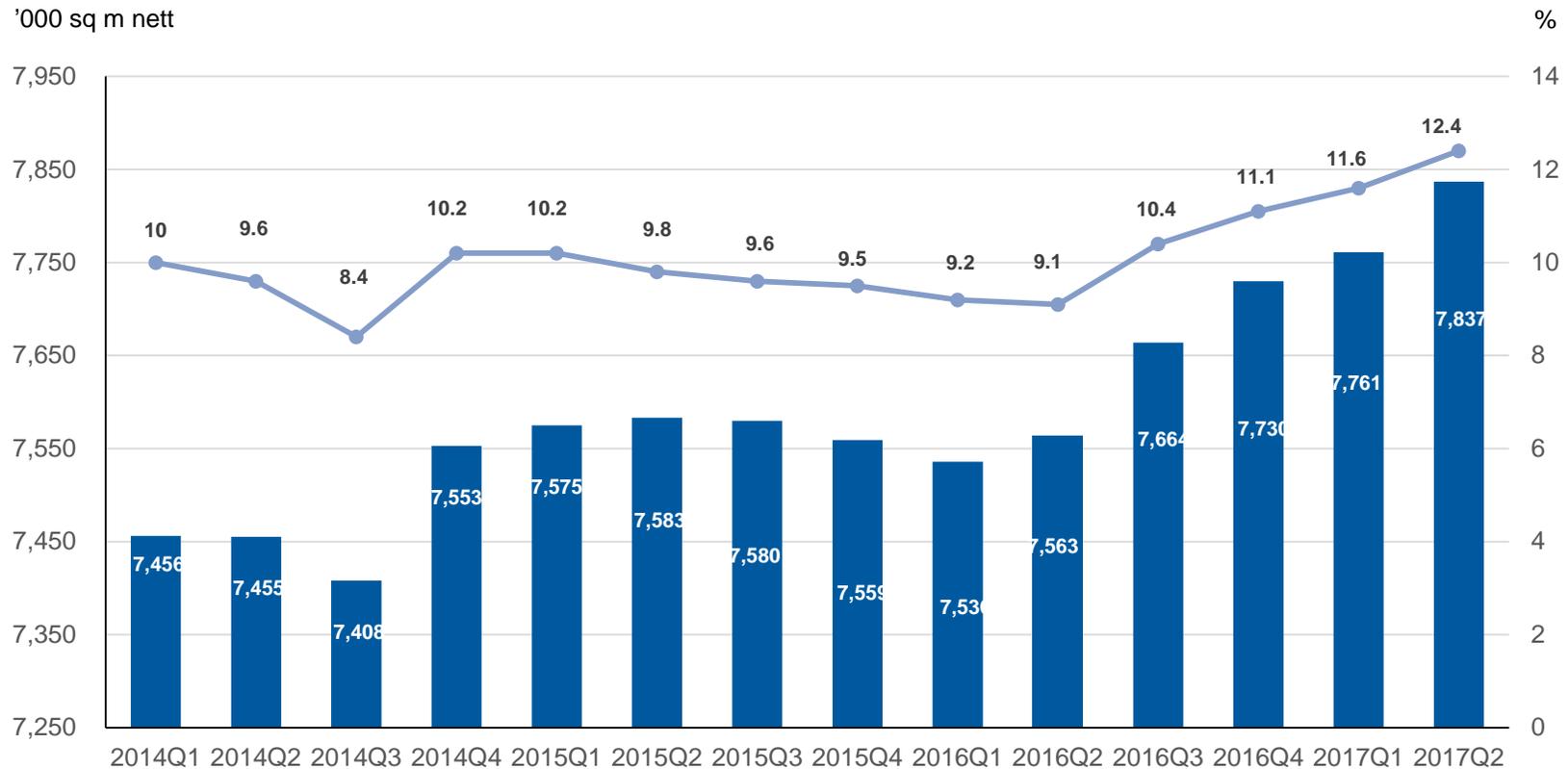


	Site area (ha)	Total Development GFA (mil sqm)	Total Office GFA (mil sqm)
Raffles Place	31	1.77	1.1
Extension of existing financial district	85	4.15	2.82 (estimated)
Recent developments	24	1.6	1.1 (estimated)

## Office market- Stock and Vacancy

Vacancy rate decreased gradually from 2015Q2 to 2016Q2. It has started to increase since 2016Q3 when major office developments were completed.

Office Stock & Vacancy Rate in Singapore

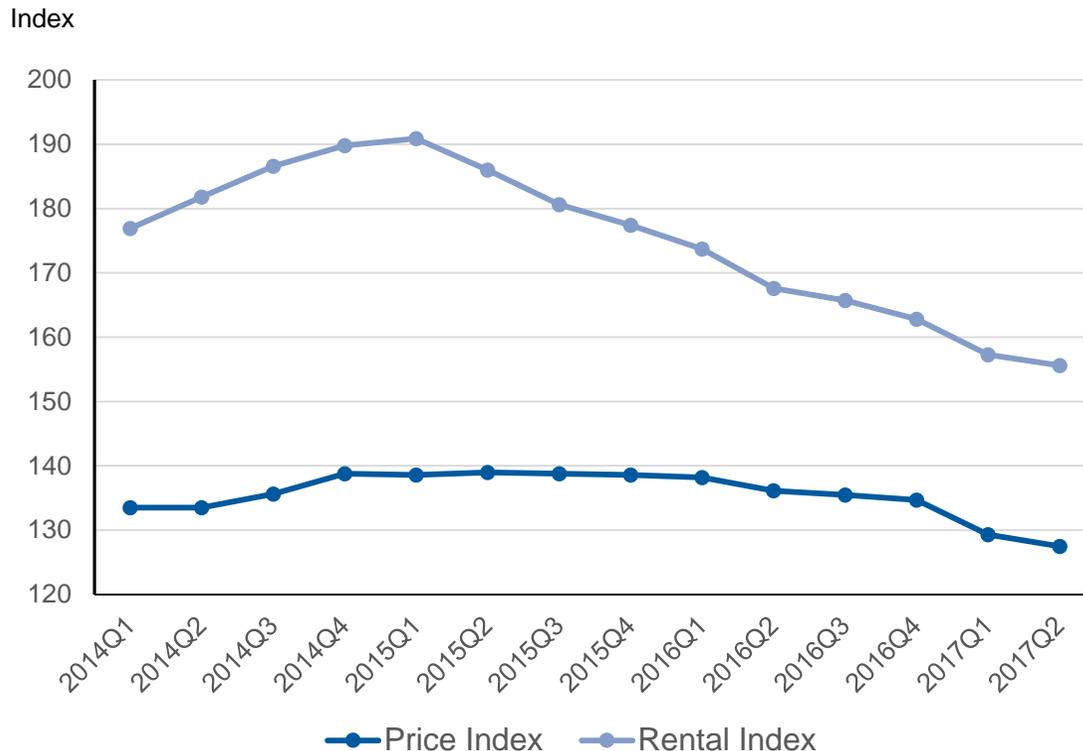


Source: Urban Redevelopment Authority

## Office market– Price and Rental Index

Office rent has been in downwards trend since 1Q15 due to significant increase in supply in 4Q14. The capital value of office space stagnates due to the downward pressure of the declining rental.

Price and Rental Index of Office Space in Central Region



- The Singapore office rental market performed well in 2014 due to tight market conditions. However, office rental growth has been subdued since the first quarter of 2015.
- Price of office property had been stagnant since the first quarter of 2015 and eventually fall due to underperforming rental market and increasing supply.

Note:

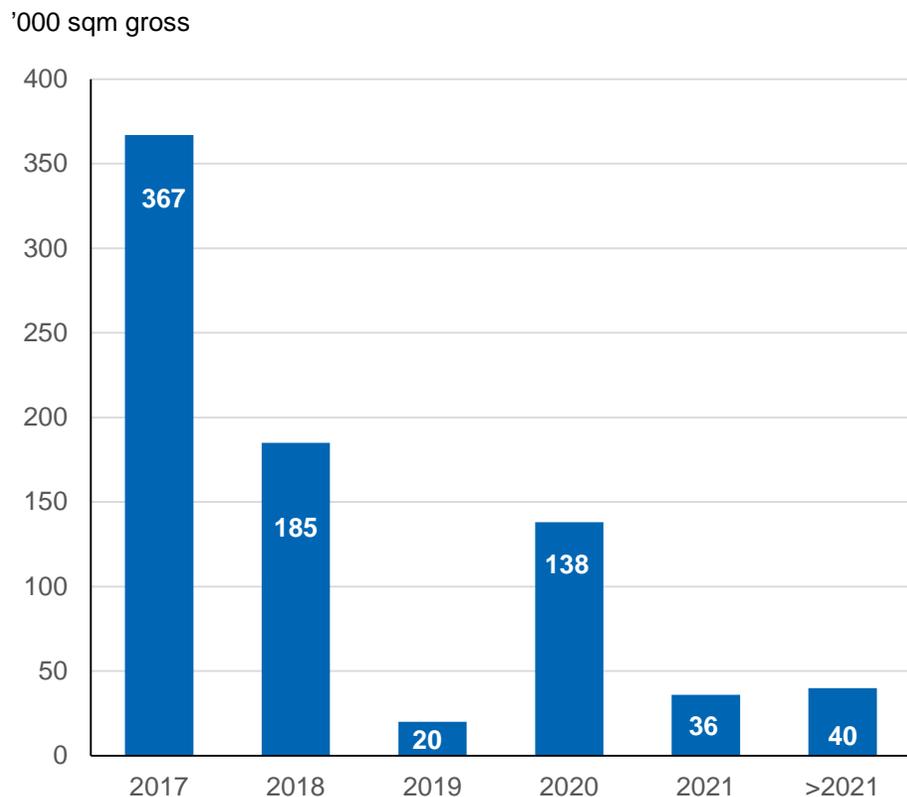
- 1) The price indices are compiled from information in caveats (A legal document lodged by a purchaser to protect her/ his interests after an option to purchased is exercised or a Sales & Purchase Agreement is signed) lodged at the option stage with the Singapore Land Registry. The price in 4Q98 are used as the base reference price of the index
- 2) Rental Index of office space are obtained from Inland Revenue Authority of Singapore (IRAS)

Source: Urban Redevelopment Authority

## Office market– Future Supply

**A sharp rise in office space supply is expected to outstrip the growth in demand in the coming years. The pressure on vacancy rate is expected to rise.**

*Pipeline Supply of Office Space in Singapore*



Source: Urban Redevelopment Authority

- Out of the office supply from 2015 Q2 to 2018 Q4, 52.8% is located in the Core CBD, 31.1% in the Fringe CBD and the remaining in the Decentralized sub-markets
- Around one-fifth of the future supply is sold on a strata-titled basis, it means more investment opportunity for investors that are looking for smaller and more affordable individual unit of office space

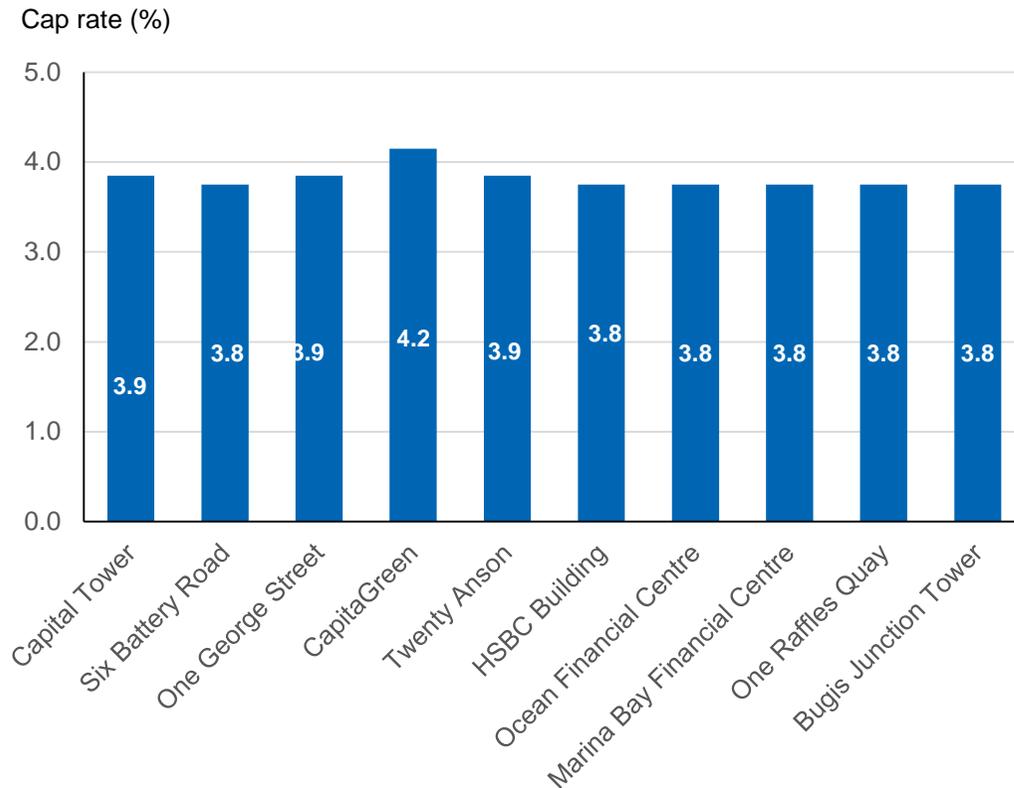
Property	Total Office GFA ('000 sqf)	Expected year of completion
Vision Exchange	475	January 2017
Oxley Tower	130	January 2017
UIC Building	276	April 2017
Marina One	1,800	April 2017
Frasers Tower	690	April 2018
Robinson Tower	195	April 2018
Paya Lebar Quarter	883.5	December 2018
Central Boulevard	1,000	Q2 2020
Golden Shoe Car Park	1,000	Q1 2021

Source: Corporate Locations

## Office market- Cap rate

Cap rate of office in CBD area in 2016 is around 3.8% in average.

2016 Capitalization Rate of Office in CBD



Source: CapitaLand Commercial Trust 2016 annual report, Keppel REIT 2016 annual report

Office REIT in Singapore

REIT	Asset Type	Investment Properties
Capitaland Commercial Trust	<ul style="list-style-type: none"> <li>Office (70%)</li> <li>Retail (18%)</li> <li>Hotel and Convention Centre (12%)</li> </ul> *By gross rental income	<ul style="list-style-type: none"> <li>Capital Tower</li> <li>Six Battery Road</li> <li>One George Street</li> <li>Raffles City Tower</li> <li>CapitaGreen</li> <li>Twenty Anson</li> <li>HSBC Building</li> </ul>
Keppel REIT	<ul style="list-style-type: none"> <li>Office</li> </ul>	<ul style="list-style-type: none"> <li>Ocean Financial Centre</li> <li>Marina Bay Financial Centre</li> <li>One Raffles Quay</li> <li>Bugis Junction Towers</li> </ul>

- Capitaland Commercial Trust, Keppel REIT, Frasers Commercial Trust, Suntec REIT, OUE Commercial REIT are the major office REIT in Singapore

## Singapore

Oversupply in each market has surfaced due to global economic slowdown.

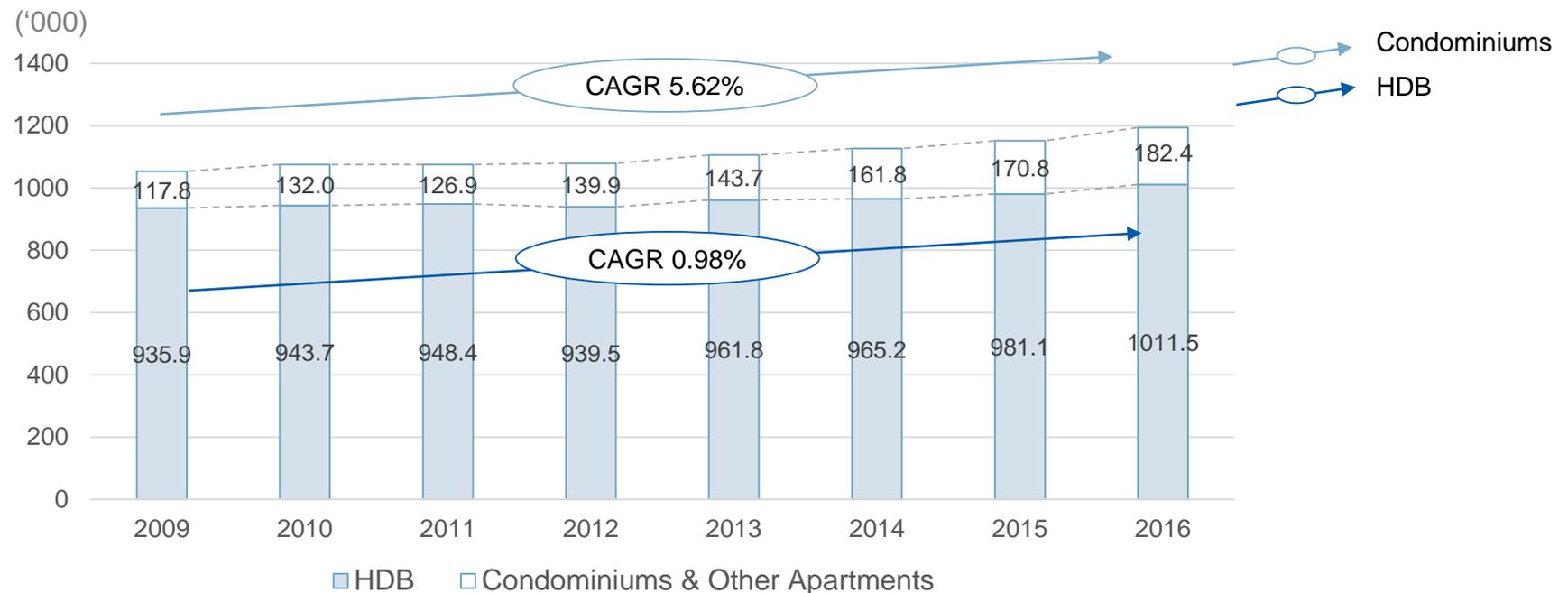
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## Residential market –Number of households by type of dwelling

**More households stay in condominiums and other apartments over the years while the percentage of households living in HDB flats is slowly going down in the last 5 years.**

- CAGR of condominiums market is much higher than that of HDB.
- Foreigners cannot purchase of HDB according to Residential Property Act imposing restrictions on foreigners in 1973.

*Number of Households by Type of Dwelling in Singapore*



HDB ··· Housing & Development Board, public housing in Singapore

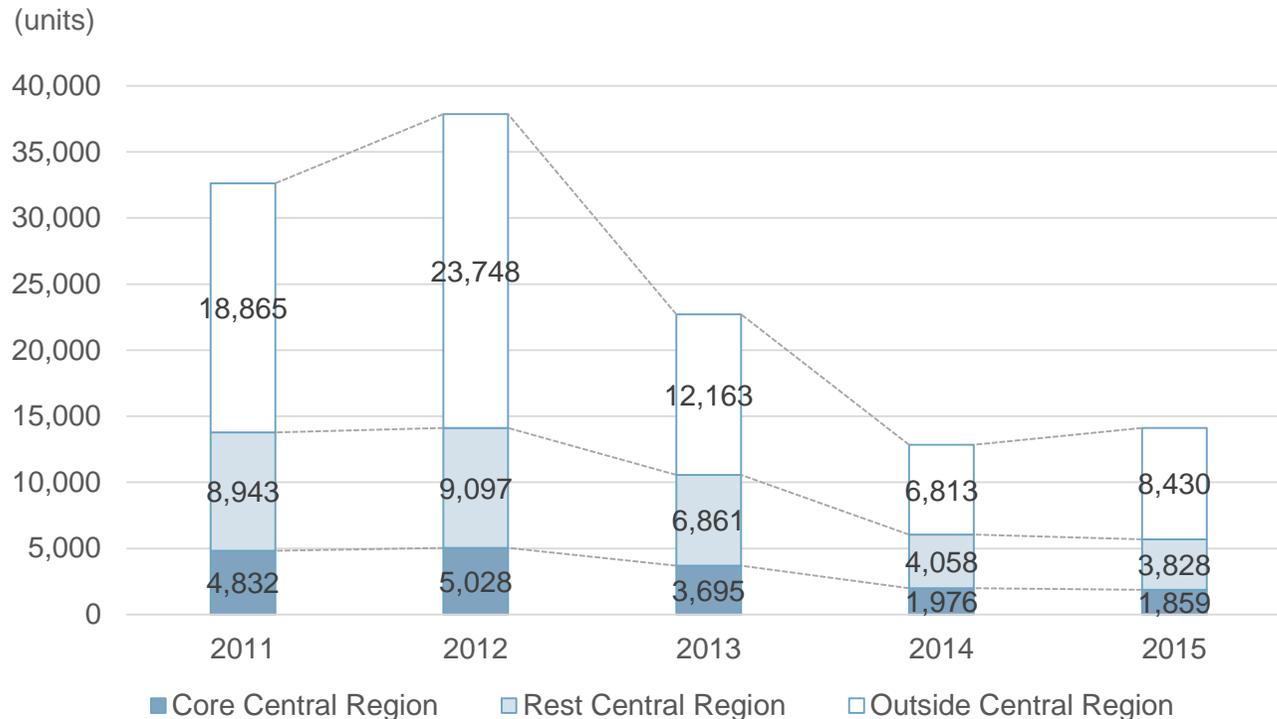
Source: NRI based on Singapore Statistics

## Residential market –Demand Trend Analysis

# Dramatically dropped the demand for Private Residential Units since 2013 due to property cooling measures.

- Around 50% of transactions for units outside Central Region dropped from 2012 to 2014
- Several property cooling measures such as introducing 60% cap from 80% on the Total Debt Serving Ratio (DSR) and 30% cap on the Mortgage Servicing Ratio(MSR) in 2013 badly affected the number of sales transactions

*Number of Sales transactions for Private Residential Units by area*



Source: NRI based on URA

## Residential market –Demand Trend Analysis

**Drastic drop of transactions of Private Residential is due to strict restrictions on investment for Private Residential in 2013 in addition to introduction of higher cap on DSR and MSR.**

- Minimum Cash Down Payment is getting higher from 10% to 25% when you purchase the 2<sup>nd</sup> and subsequent Residential property.
- Foreigners have an obligation to pay 15% ABSD of sales price of residential

### *Change of Governmental Restrictions on investment for Private Residential in 2013*

	1st Housing	2nd Housing	3rd Housing
LTV Limit*	80% or 60%*	60% or 40%* ⇒50% or 30%*	60% or 40%* ⇒40% or 20%*
Minimum Cash Down Payment	5% (for LTV of 80%) 10% (for LTV of 60%)	10%⇒25%	10%⇒25%
BSD	1% on first \$180,000 2% on next \$180,000 3% for the remainder		
ABSD(Singapore Citizens)	Not applicable	Not applicable ⇒7%	3%⇒10%
ABSD(Foreigners)	10%⇒15%		

LTV.. Loan to Value

BSD...Buyer's Stamp Duty

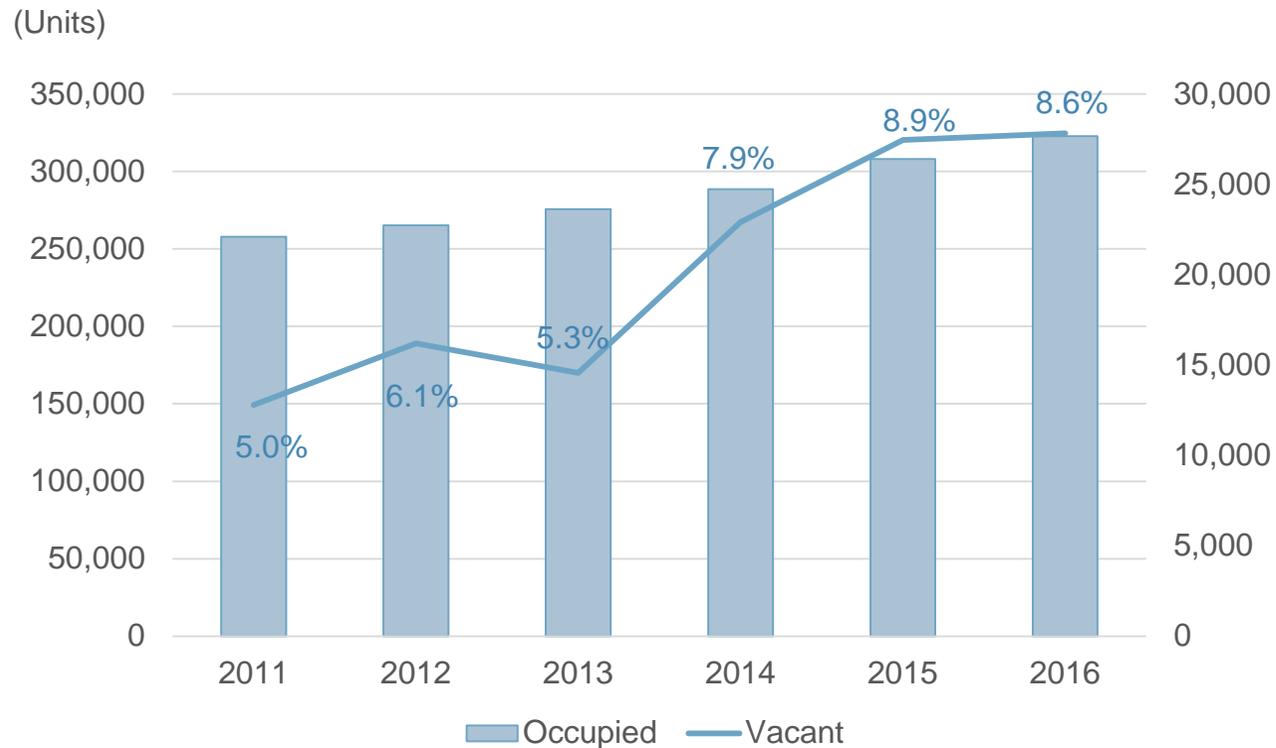
ABSD...Additional Buyer's Stamp Duty

\*If the loan tenure is more than 30 years or extends past age 65

## Residential market–Stock and Vacancy Rate

From 2013 to 2014, vacant rate got dramatically high compared to the change from 2011 to 2013.

*Current Stock and Vacancy of Private Residential Units (Including Executive Condominium)*



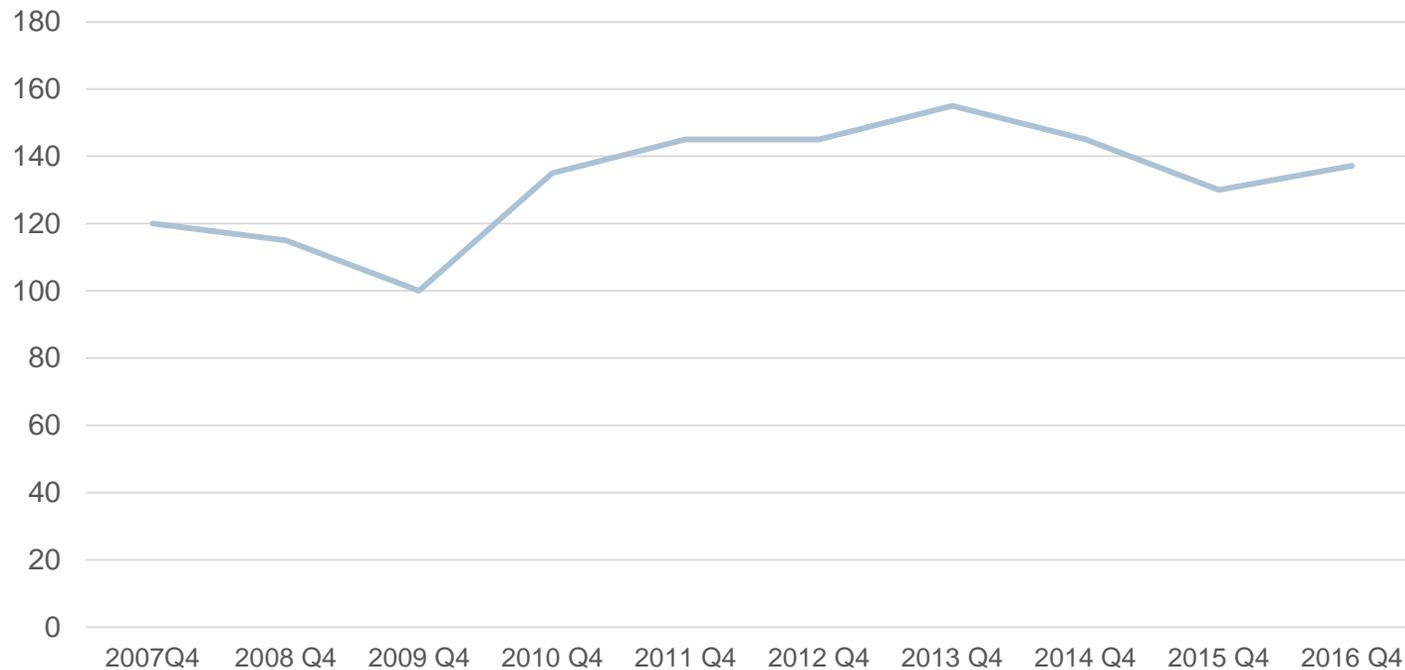
Source: NRI based on URA

## Residential market- Sales and Rental Index of Non-Landed property

**Sales Price Index has gradually dropped in 2013 due to higher vacancy rate over the years.**

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*Sales Index of Private Residential*



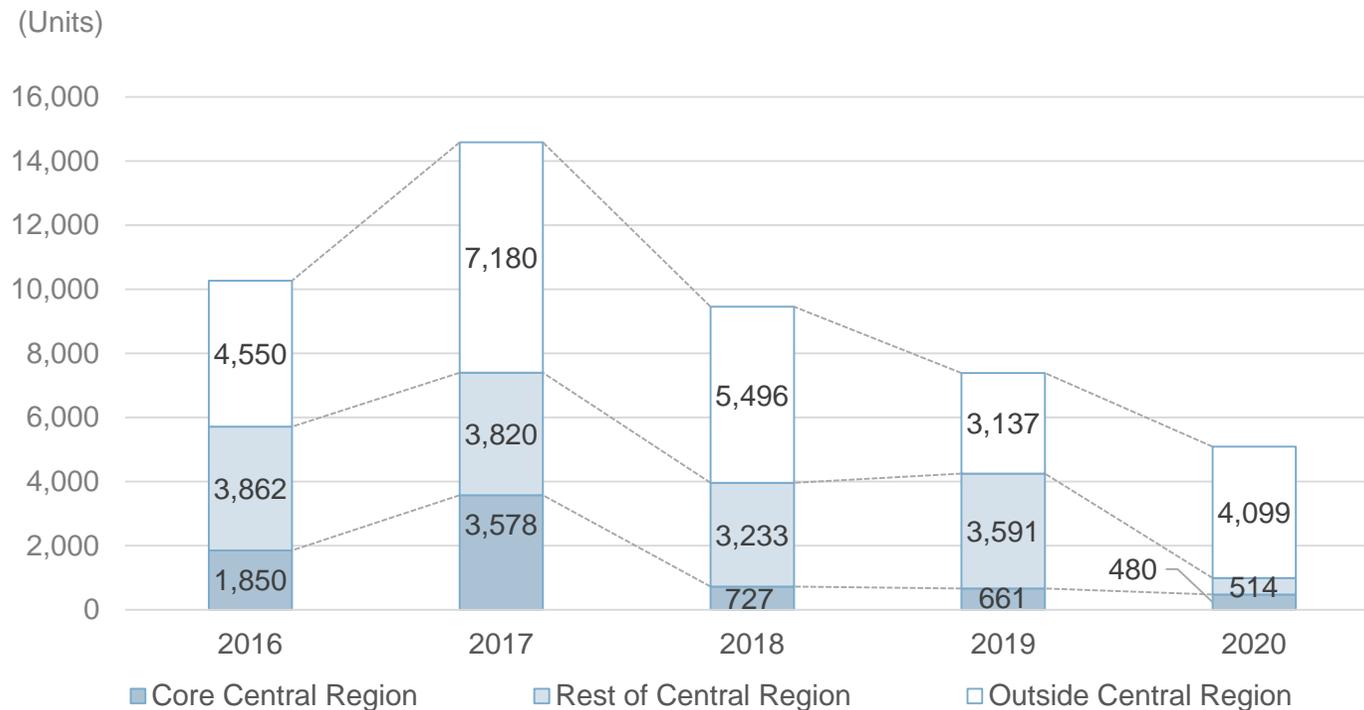
Source: NRI based on URA

## Residential market -Future Supply

**The supply for Outside Central Region is expected to be the largest for the next 5 years.**

- The rise in Private Residential Unites can be seen in the next years
- The number of new Private Residential units seems to decrease at Core Central Region

### *Supply in the Pipeline of Private Residential Units*

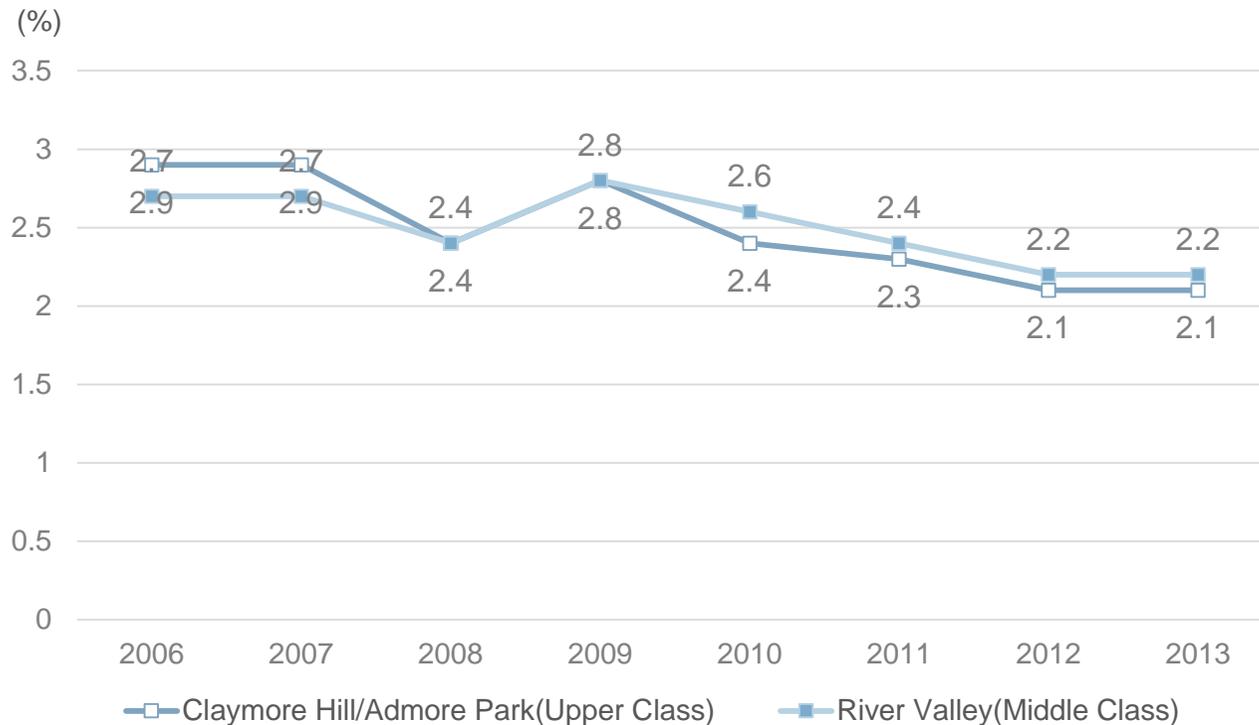


Source: NRI based on URA

## Residential market-Cap Rate

Capitalization rate has been dropping due to the higher vacancy rate.

*Capitalization Rate for Upper class and Middle class*



Source : NRI based on Japan Association of Real Estate Appraisers

## Singapore

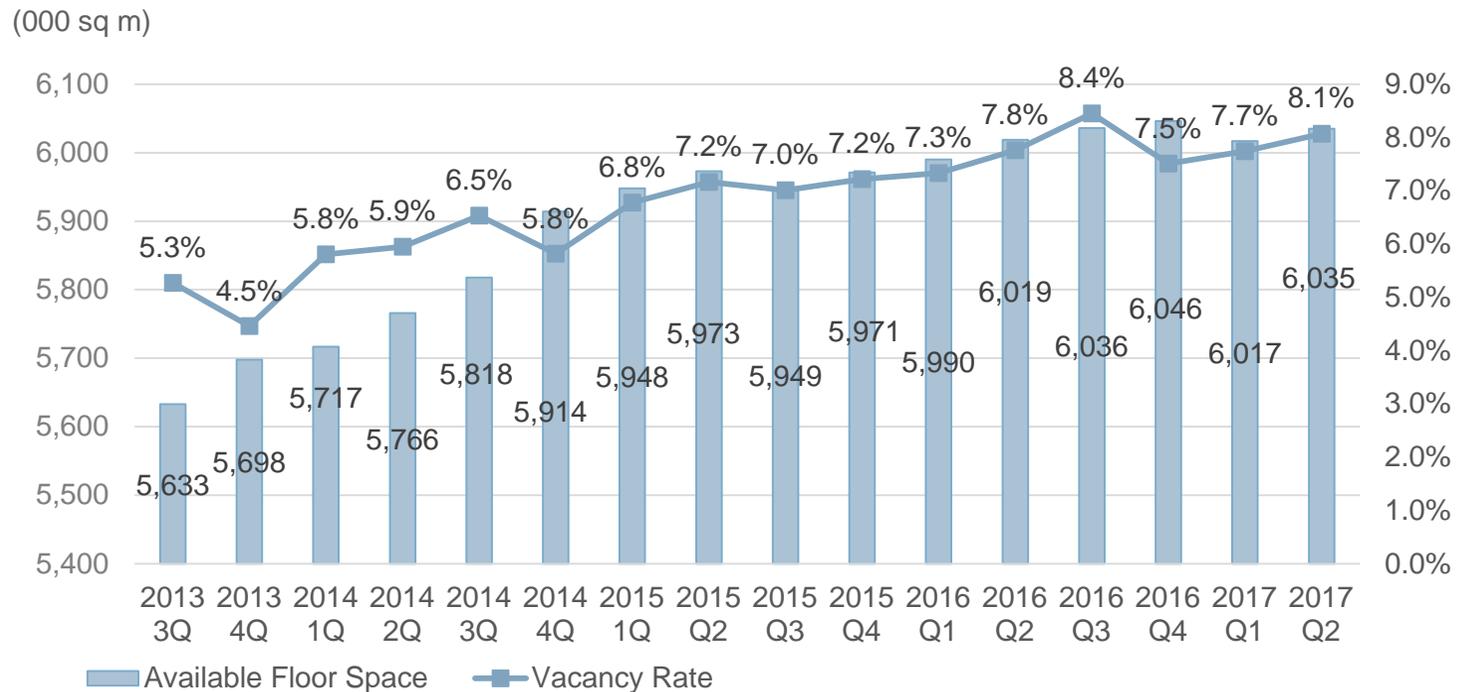
Oversupply in each market has surfaced due to global economic slowdown.

- 1 Macro Fundamentals
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## Retail market–Availability of Floor Space and Vacancy Rate

**Vacancy Rate is getting higher which causes gradual increase of availability of floor space after Q1 of 2015.**

*Availability of Floor Space and Vacancy Rate of Retail*



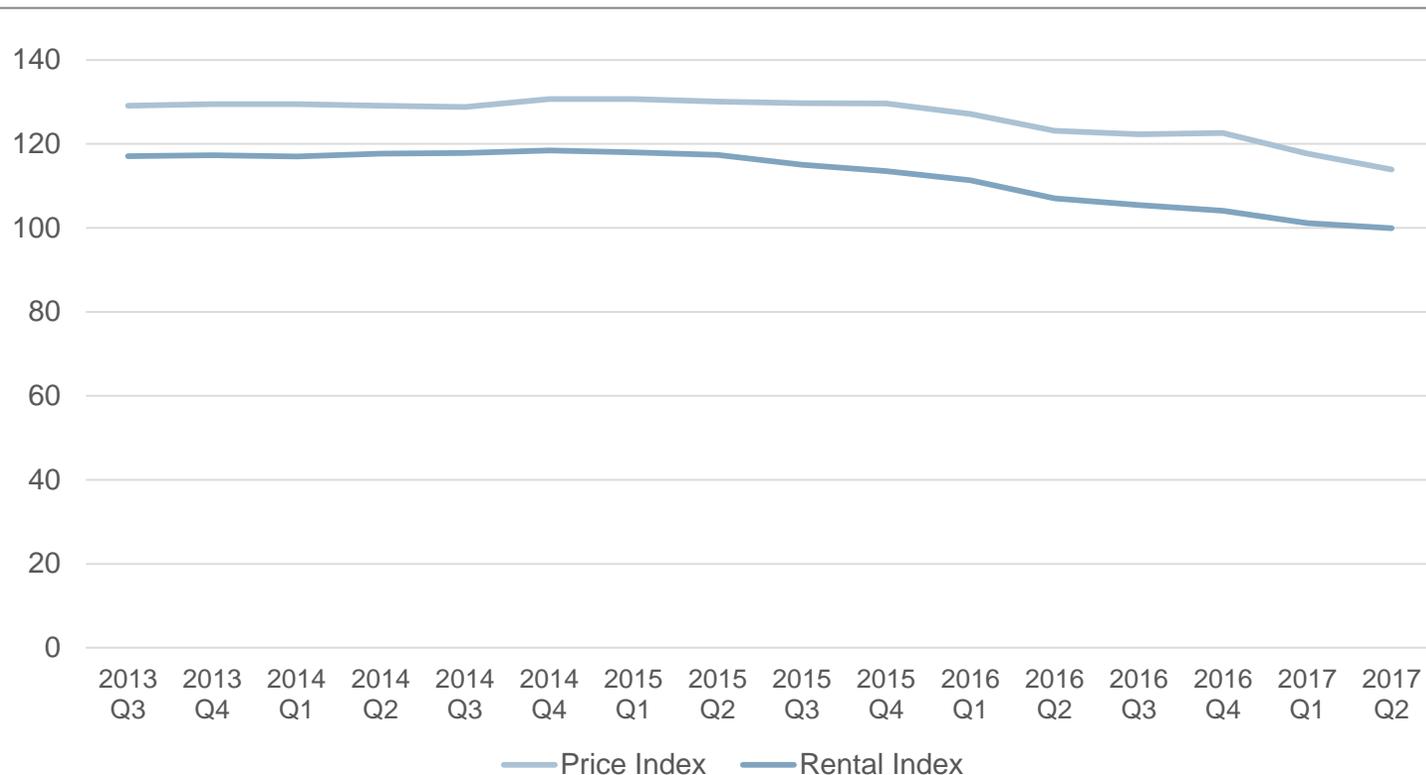
Source: NRI based on URA

## Retail market- Price and Rental Index of Retail Space

# Price and Rental Index of Retail Space is going down affected by the higher vacancy rate in every quarter in 2015.

- Those prices were stable until 2014, but due to slowdown of demand for retail space, vacancy rate is increasing and affects both of these index.

*Price and Rental Index of Retail Space in Central Region*



Source: NRI based on URA

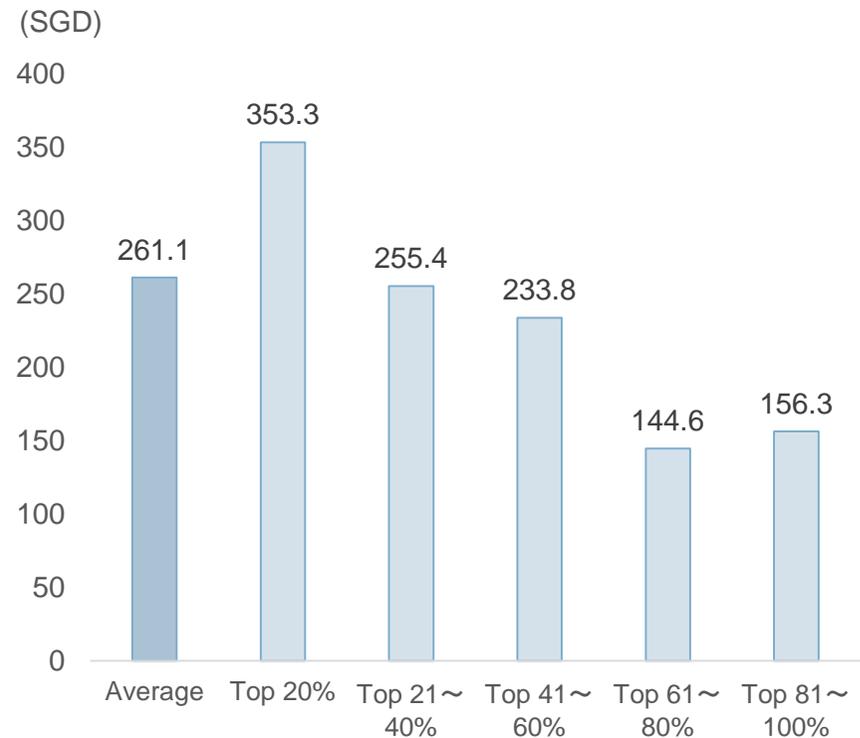
## Retail market- e-Commerce in Singapore

**Consumers previously shopped at brick-and-mortar stores now prefer to shift shopping online retailers, which causes lower demand for physical shopping spaces.**

- Thanks to internet accessibility, high penetration of mobile devices and strong governmental support for online retailers in Singapore attract consumers to shopping online instead of going all the way to malls.

*E-Commerce market size in SEA and monthly average amount of Online shopping in Singapore by Income group*

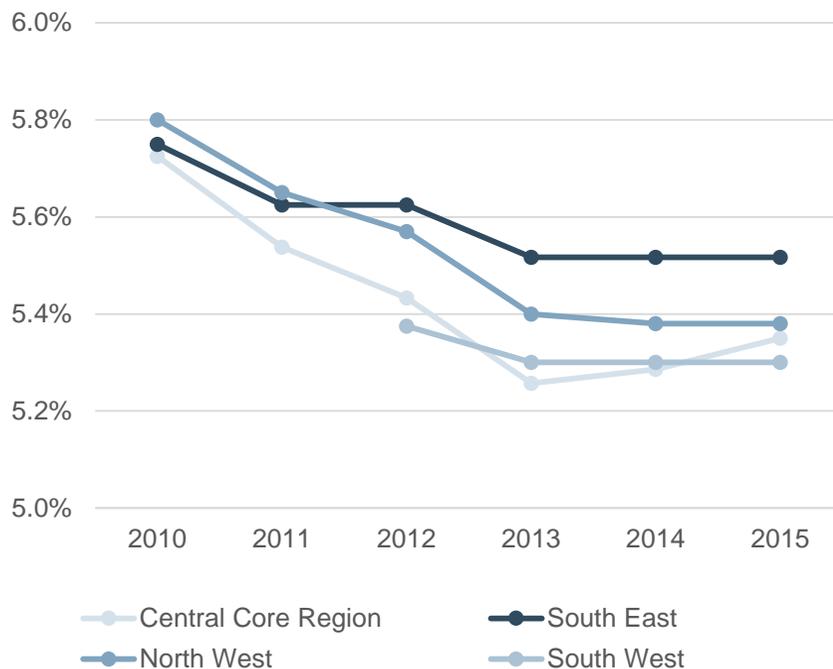
	2015		2025(Estimate)	
	Retail Sales (bn,USD)	EC Sales out of Retail	Retail Sales (bn,USD)	EC Sales out of Retail
<b>Singapore</b>	48	2.1%	81	6.7%
Malaysia	91	1.1%	152	5.4%
Thailand	113	0.8%	202	5.5%
Vietnam	67	0.6%	160	4.7%
Philippines	100	0.5%	206	4.7%
Indonesia	238	0.6%	575	8.0%



## Retail market–CAP Rate

**South East Region has highest Cap Rate according to the CAP Rate of the main malls in Singapore.**

*Retail Capitalization Rate by Core Central Region and Other Regions*



### List of Malls for Capitalization Rate

#### Central Core Region

Junction 8, Atrium, Bugis+, Clarke Quay, Paragon, Wisma Atria, Ngee Ann City, Bugis Junction, Plaza Singapura

#### South East

Tampines Mall, Bedok Point, Changi City Point

#### North West

Bukit Panjang Plaza, Causeway Point, Northpoint, Lot One Shopper's Mall, Yew Tee Point

#### South West

Jcube, Clementi Mall

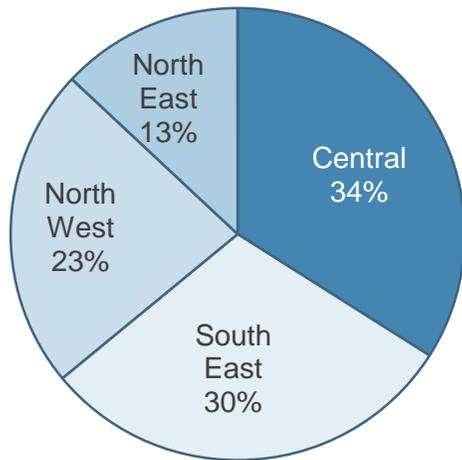
\*Data for 2010 and 2011 are not available because Jcube and Clementi Mall was open in 2011 and 2012 respectively

## Retail market– Future Supply

# New retail supply will be suburbs, especially Outside Central Region and large proportion of OCR retail will be in the East.

- This is in line with government’s strategy “Work-Live-Play” solutions decentralizing working and living function to Outside Central Region.

*Proportion of Future Retail Supply by locations in 2016-2018 and the 5 largest pipelines in Singapore*



(% Based on the sq m)

Project name and location	Area	Name of Developer	Gross Floor Area	Expected year of final TOP
Hotel/retail development at Airport Boulevard	South East	Changi Airport Group (S) Pte Ltd	90,000 sq m	n.a.
Northpoint City at Yishun Central 1	North West	North Gem Development Pte Ltd/FC North Gem Trustee Pte Ltd	39,050 sq m	2018
Additions/alterations and extension to existing Singapore Post Centre at Eunos Road 8	South East	Singapore Post Limited	25,000 sq m	n.a.
Hillion Mall at Jelebu Road	North West	Sim Lian JV (BP Retail) Pte Ltd/Sim Lian JV (BP) Pte Ltd	20,490 sq m	n.a.
Office/retail development for Changi Airport Terminal 4 at Airport Boulevard	South East	Changi Airport Group (S) Pte Ltd	19,710 sq m	n.a.

## Singapore

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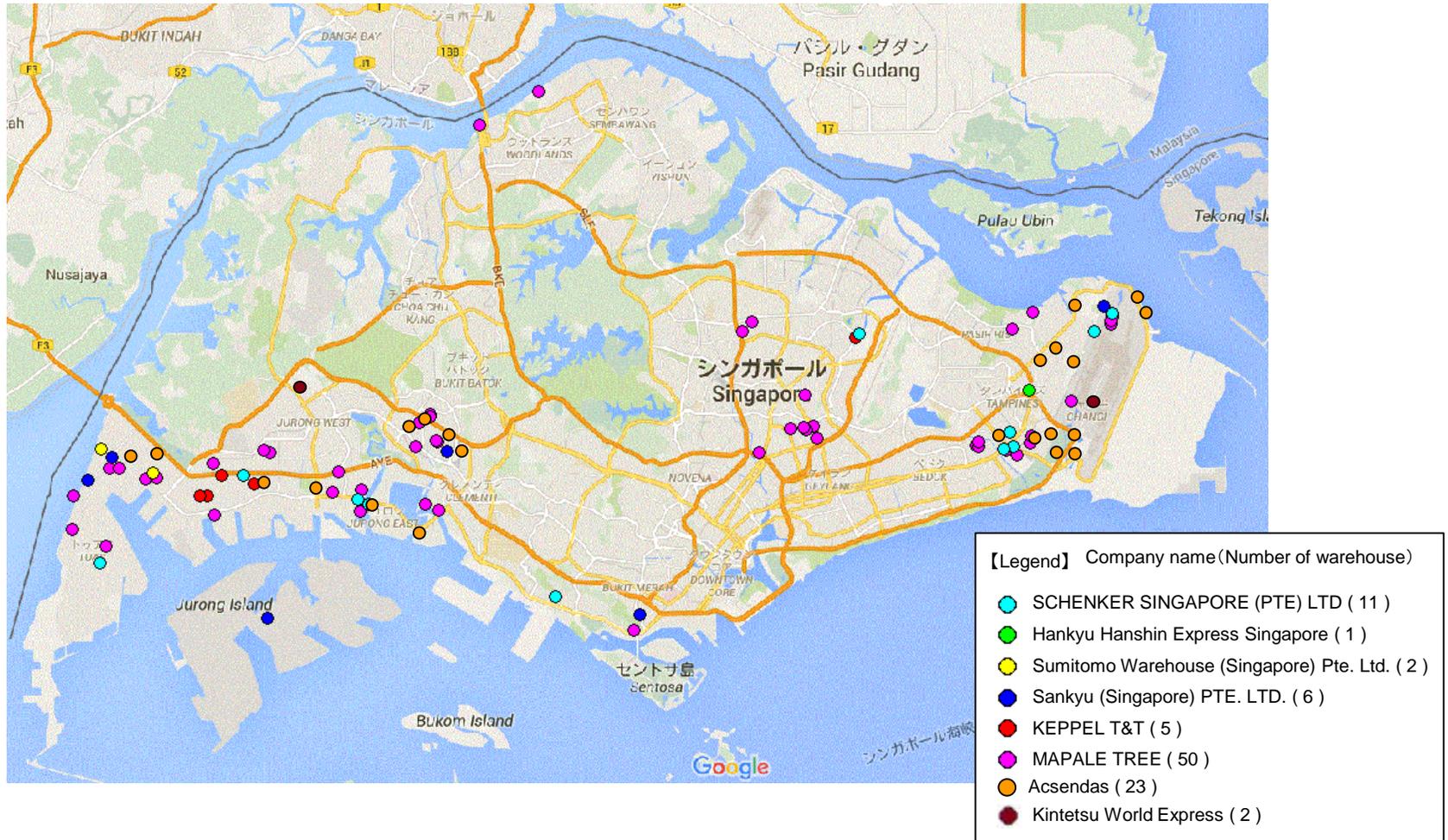
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Hotel Market

7

Real Estate Investment Products

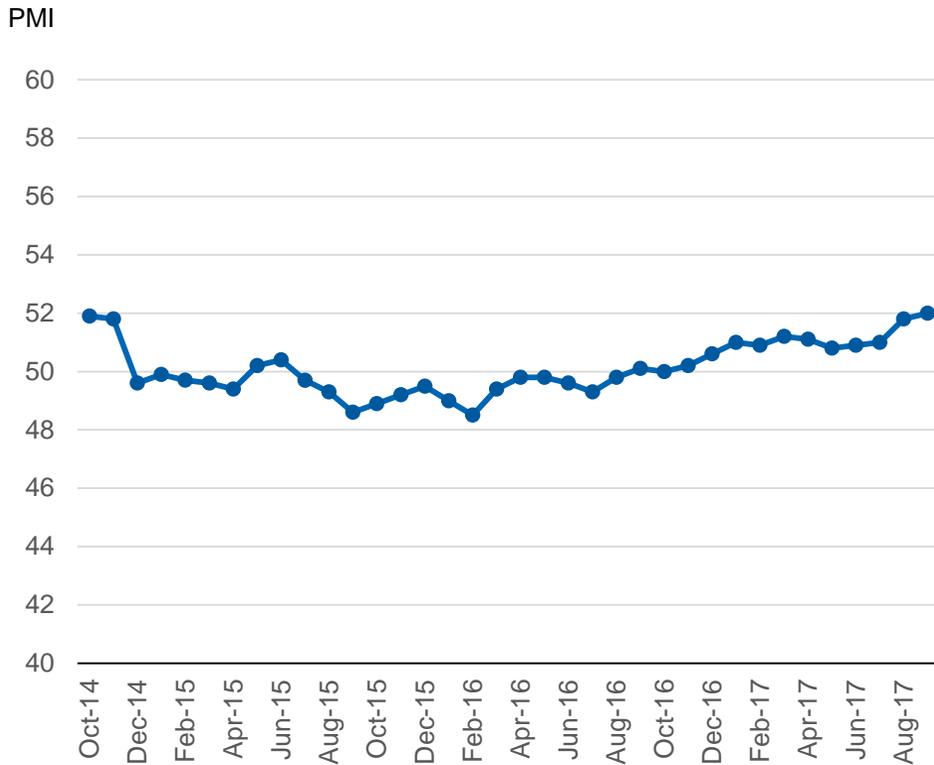
# Most of the warehouse space is located in the eastern and western part of Singapore.



## Logistics Space– Demand Trend

**Manufacturing activities has been expanding in the past 13 months. Industrial space market is expected to improve gradually.**

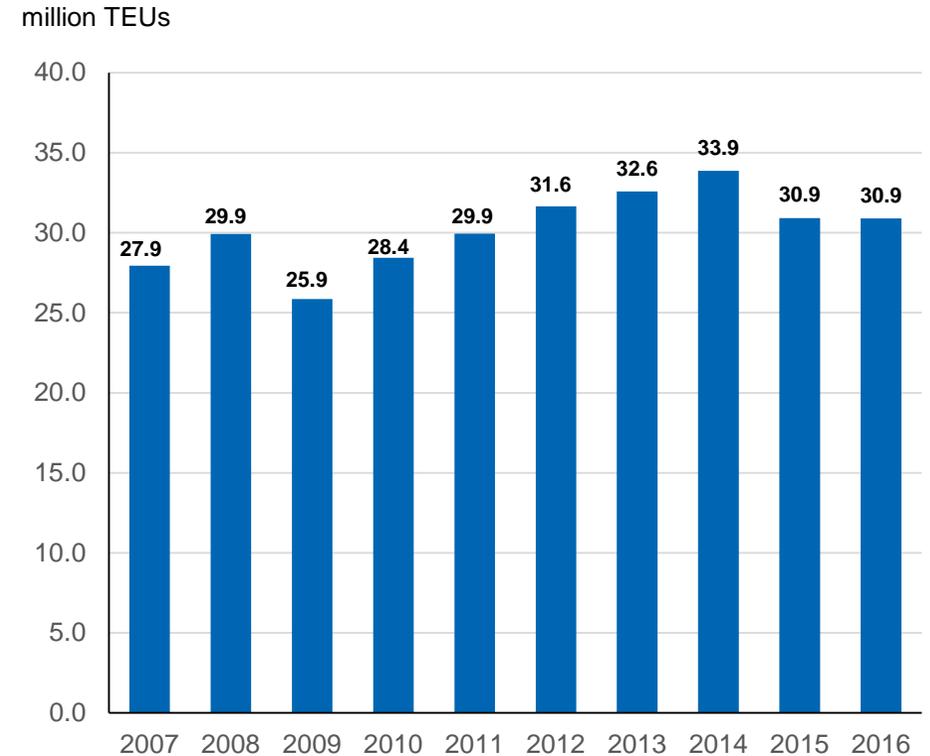
*Singapore Purchasing Managers' Index (PMI)*



Note: Singapore PMI measures the performance of the manufacturing sector and is derived from a survey of 400 industrial companies

Source: Singapore Institute of Purchasing & Materials Management (SIPMM)

*Container Traffic of Singapore Port*

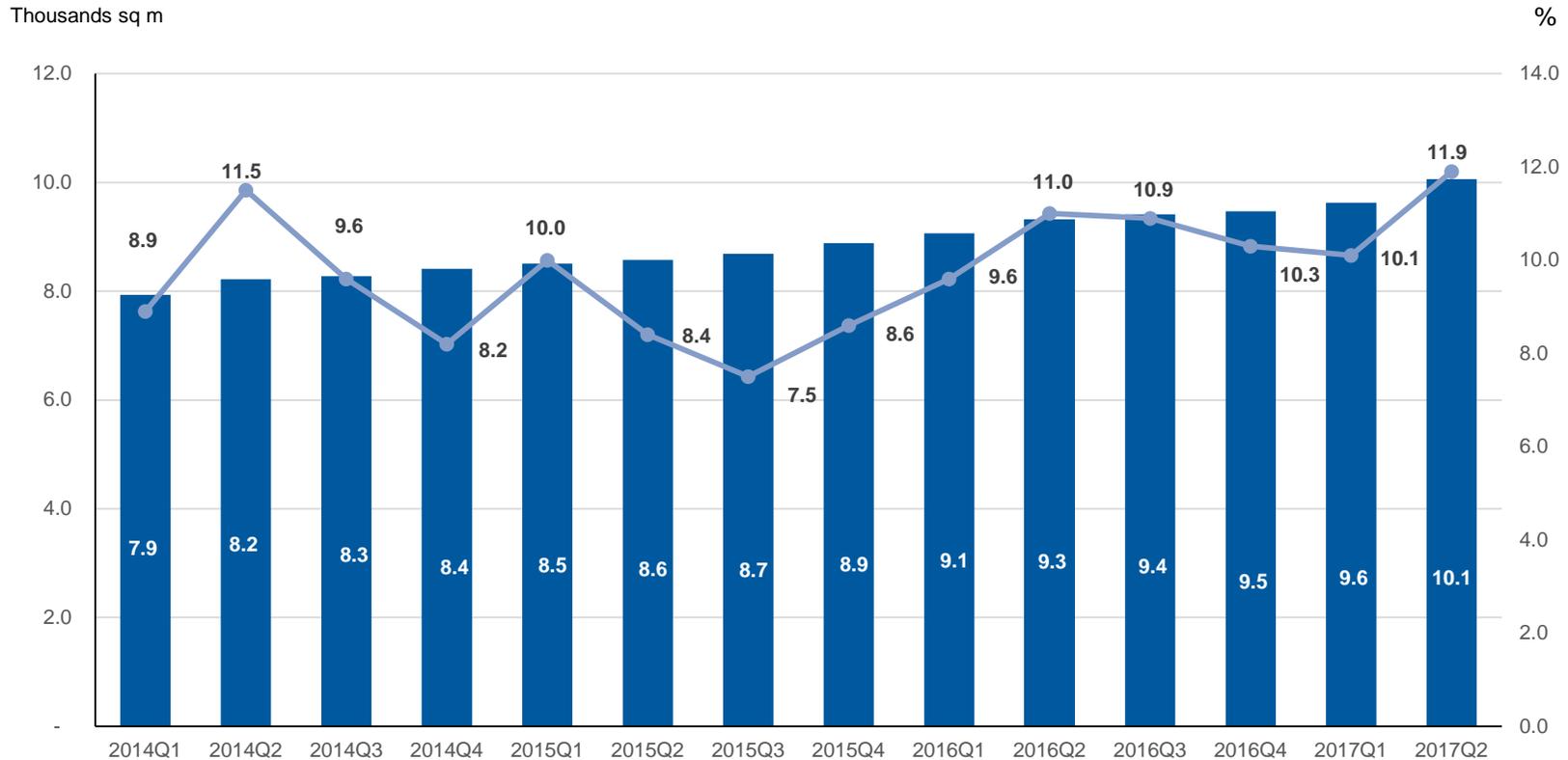


Source: Maritime and Port Authority of Singapore

## Logistics Space– Stock and Vacancy

Vacancy rate reduced gradually from 2016Q3 to 2017Q1 but increased in the most recent quarter following the higher rate of increase in warehouse space supply.

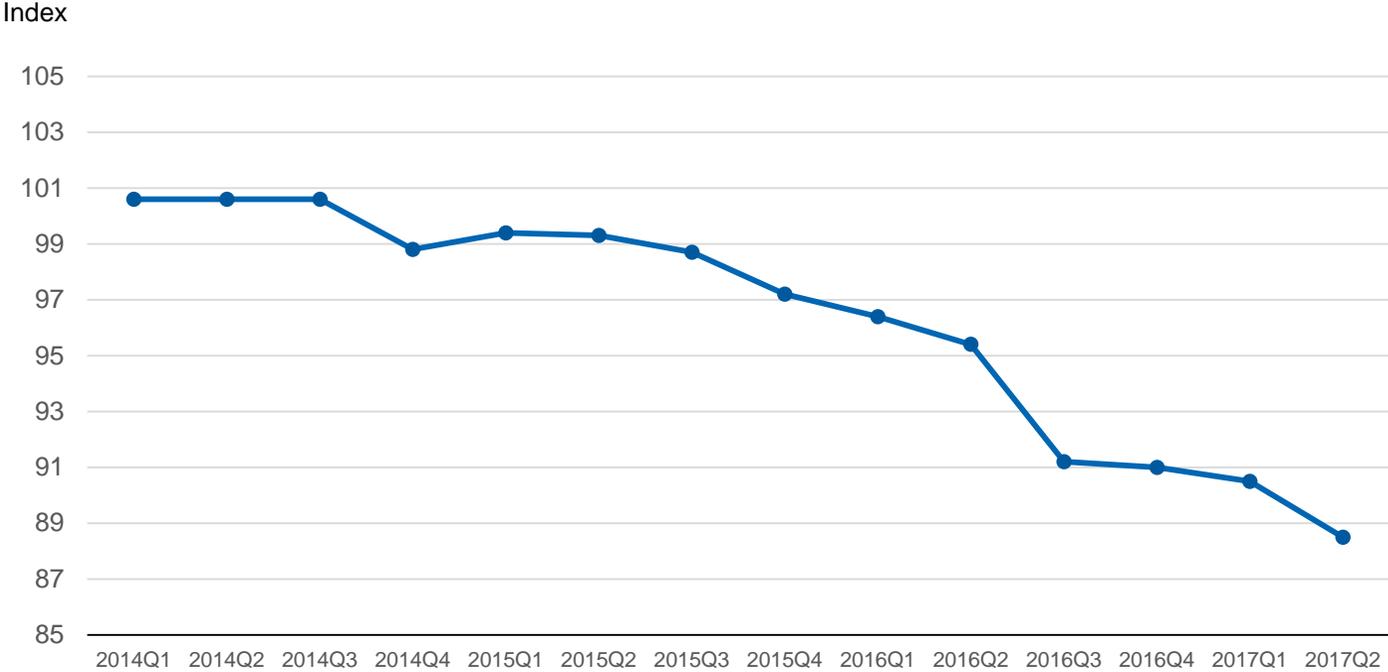
Warehouse Stock & Vacancy Rate in Singapore



Source: JTC Corporation

# Warehouse rental is on the downward trend in recent years.

Rental Index of Warehouse in Singapore



Note:

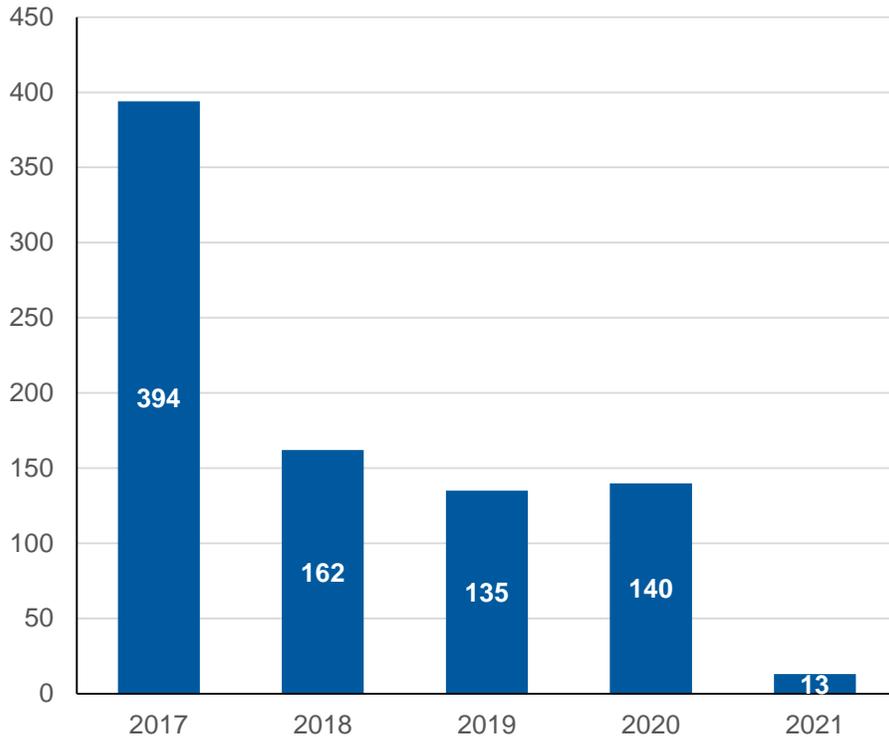
1) Before 4th Quarter 2014, the rental index is computed based on transactions in the Central region. From 4th Quarter 2014, the scope of the rental index is expanded to include transactions outside Central region. From 4th Quarter 2014 and 1st Quarter 2016, the weights used are fixed using 2012 and 2015 transaction values respectively.

## Logistics Space– Future Supply

**There will be a total of 0.84 million sqm GFA of warehouse space expected to be completed by 2021 and a surge in supply in 2017.**

### *Pipeline Supply of Warehouse in Singapore*

'000 sqm gross



Source: Urban Redevelopment Authority

### Major Projects in the Pipeline as of 2017 Q2

Project Description	Name of Developer	GFA (sq m)	Expected year of completion
Poh Tiong Choon Logistics Hub at Pandan Road	Poh Tiong Choon Logistics Ltd.	50,940	2017
Warehouse Development at Benoi Road	GKE Warehousing & Logistics Pte. Ltd.	39,760	2017
Warehouse Development at Pioneer Road	HSBC Institutional Trust Services Ltd.	71,680	2017
Warehouse Development at Jalan Ahmad Ibrahim/ Tuas Avenue 1	HSBC Institutional Trust Services Ltd.	44,310	2018
JTC Logistics Hub @ Gul Circle	JTC Corporation	95,310	2019
Warehouse Development at Tuas South Avenue 14	Diamond Land Pte. Ltd.	65,230	2020

Source: JTC Corporation

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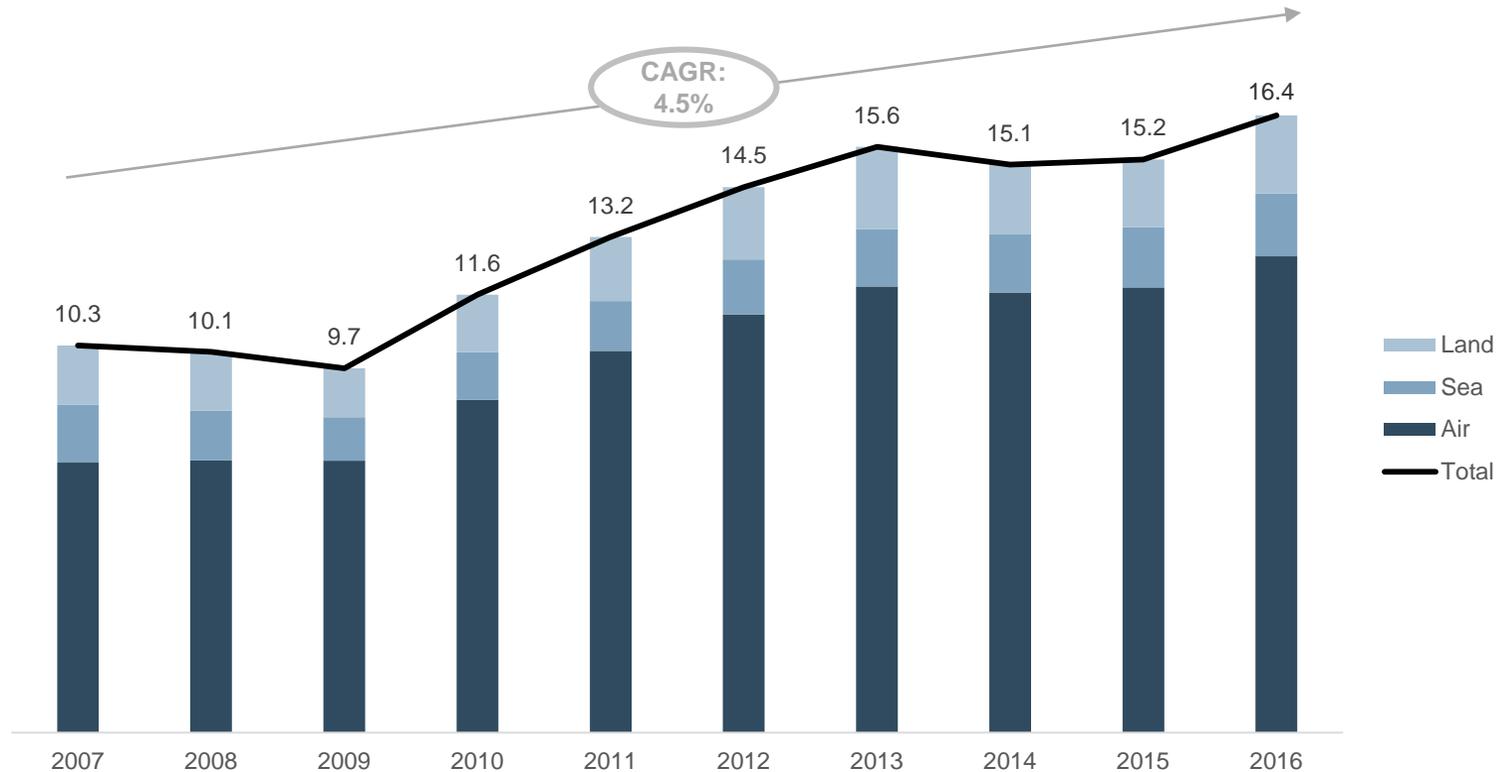
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Real Estate Investment Products

## Visitor arrivals into Singapore has been increasing steadily since the 2008 global recession, with numbers reaching stable levels in recent years.

- The increase in visitors can be attributed to increasing flight capacities into Singapore, especially new direct connecting flights to secondary Chinese cities, as well as an increase low-cost carriers (LCC) within SEA region.

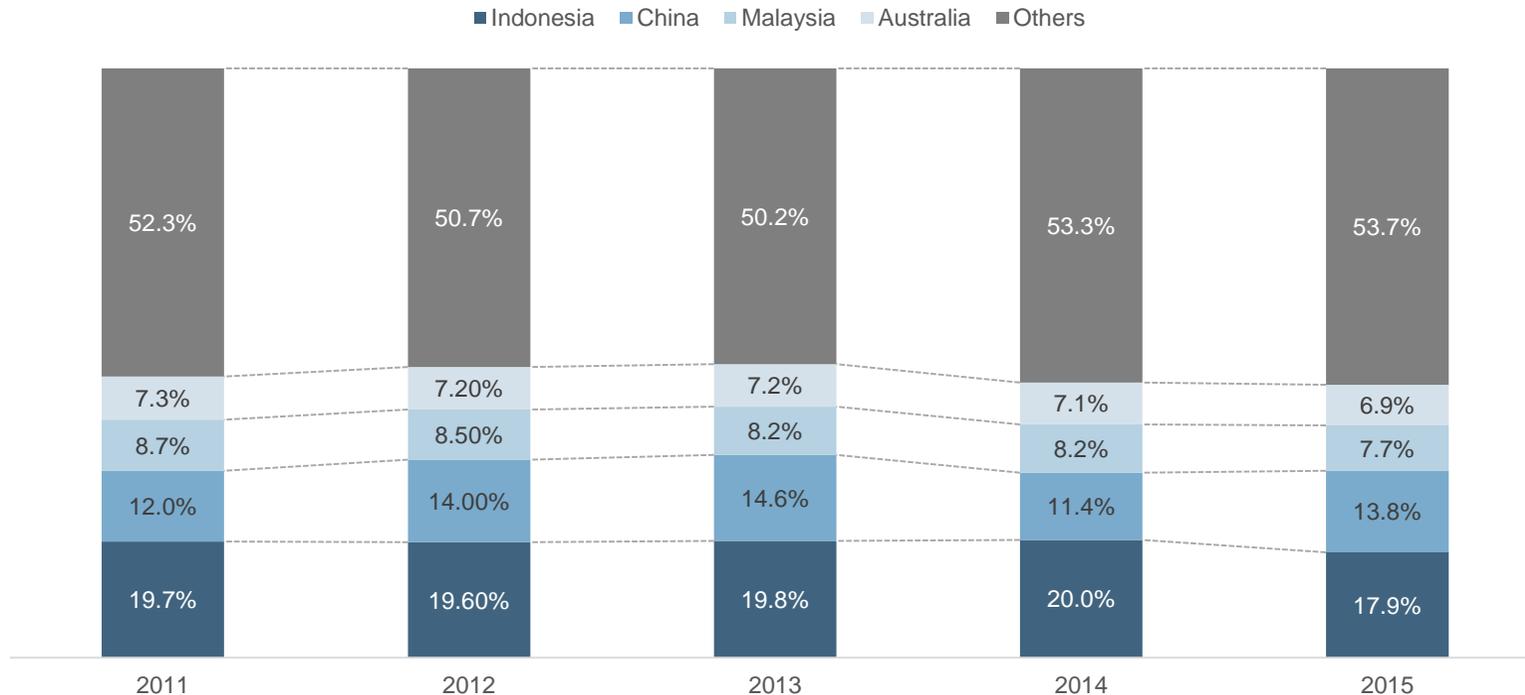
Visitor Arrival Numbers to Singapore (millions) (by mode of transport) (2007-2016)



## Indonesia, China, Malaysia & Australia constitute the top four largest countries for visitor numbers in Singapore.

- Visitor numbers from these countries have remained in the top four ranking, boosted by the services of regional low cost-carriers in the region.

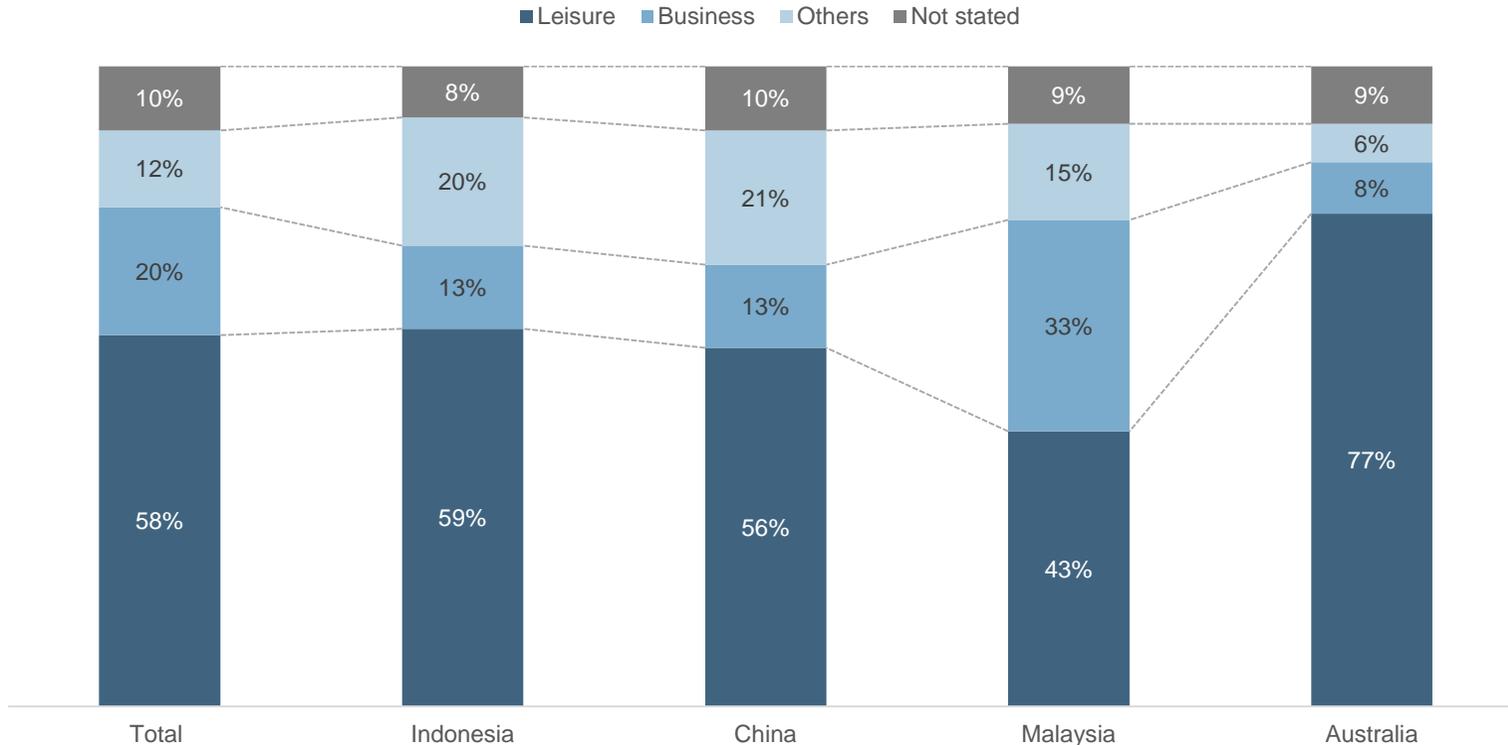
*Top visitors by nationalities, (%) 2010-2014*



# More than half of the visitors into Singapore are here for leisure purposes, and 1 in 5 are here for business purposes.

- The high percentage of visitors coming to Singapore for leisure purposes suggests that initiatives to boost tourism in Singapore has been considerably successful in attracting visitors into the country.

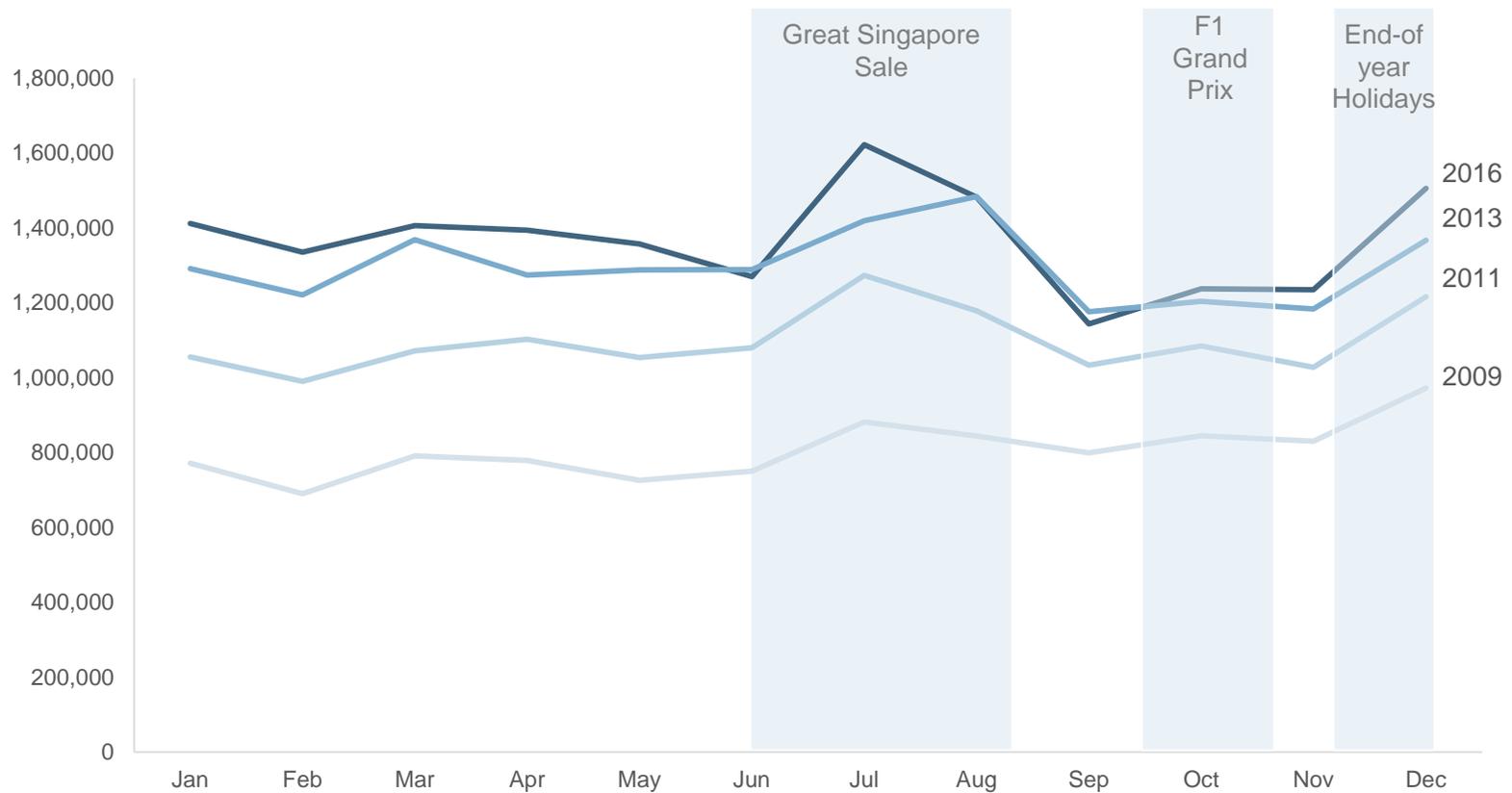
*Main Purpose of Visit (%), 2015*



**Indeed, though visitor numbers are relatively stable throughout the year, they tend to peak during festive occasions or promotional periods.**

- The peak from June to August can be attributed to the annual Great Singapore Sale, an event organized by Singapore Tourism Board & Singapore Retailers Association to promote tourism in Singapore.

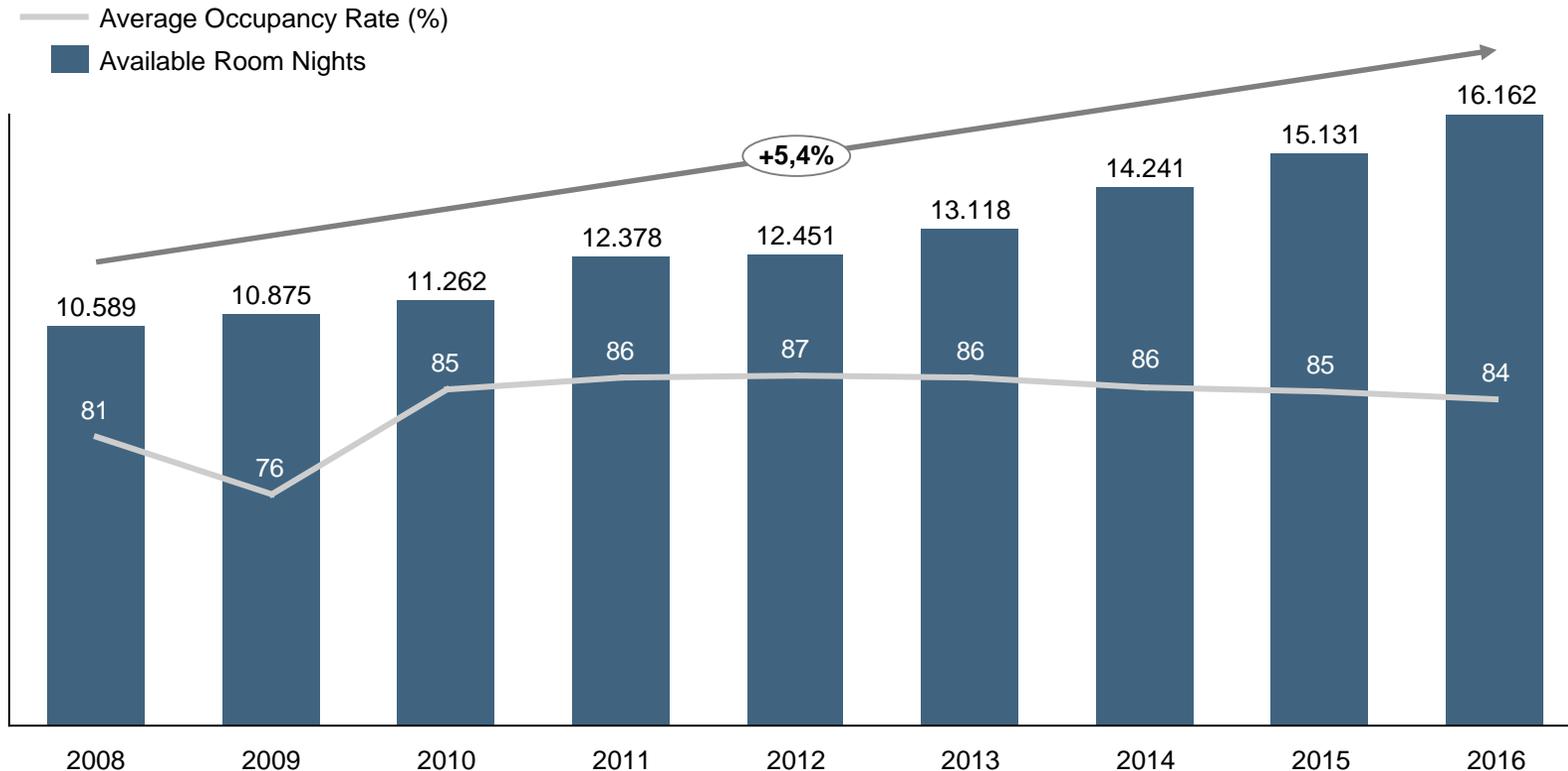
*Visitor Arrival Numbers to Singapore*



## While hotel room supply continues to increase each year, post-recession occupancy rates have also stabilized, staying close to 85% levels.

- Recent significant additions to hotel supply include Westin Singapore Marina Bay (2014), Sofitel So Singapore (2014), Holiday Inn Express (2014) & Patina Hotel (2015).

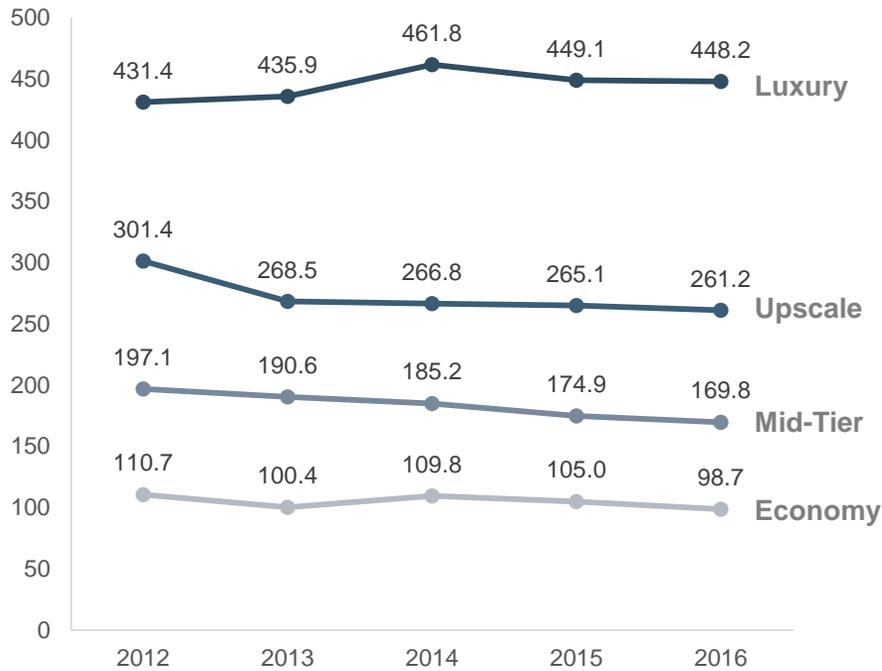
Available Room Nights ('000) & Occupancy Rate (%)



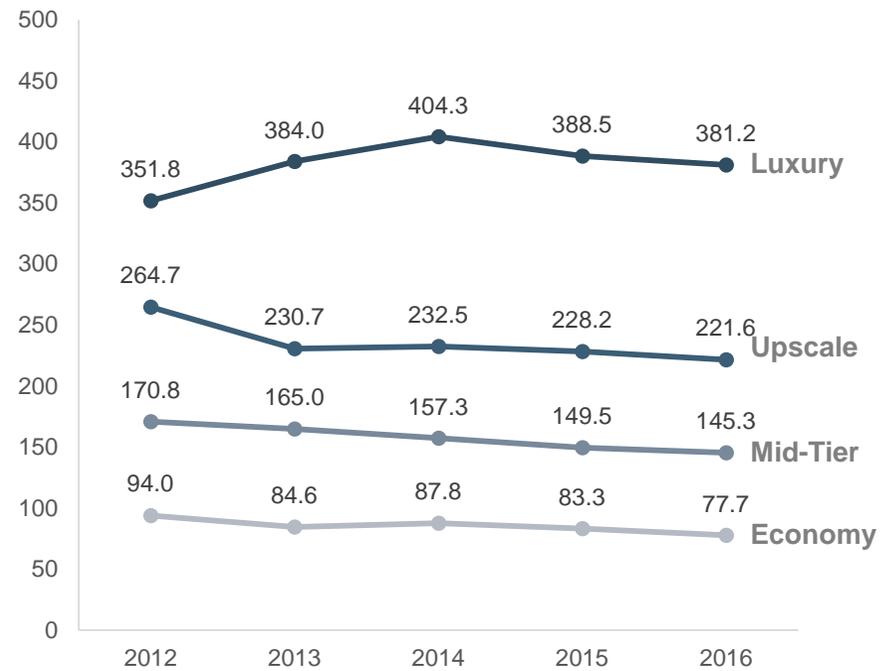
# With the exception of luxury segment, all other room segments are witnessing slight declines in room rates and RevPar.

- This downward pressure on rates and revenues is expected to continue, as the influx of new hotel rooms continue for the next few years.

Average Room Rates by Room Segment (\$\$)



Average Revenue per Available Room (RevPar) (\$\$) by Room Segment



**Luxury** - Includes hotels in the luxury segment and are predominantly in prime locations and/or in historical buildings

**Upscale** - Includes hotels in the upscale segment and are generally in prime locations or hotels with boutique positioning in prime or distinctive location

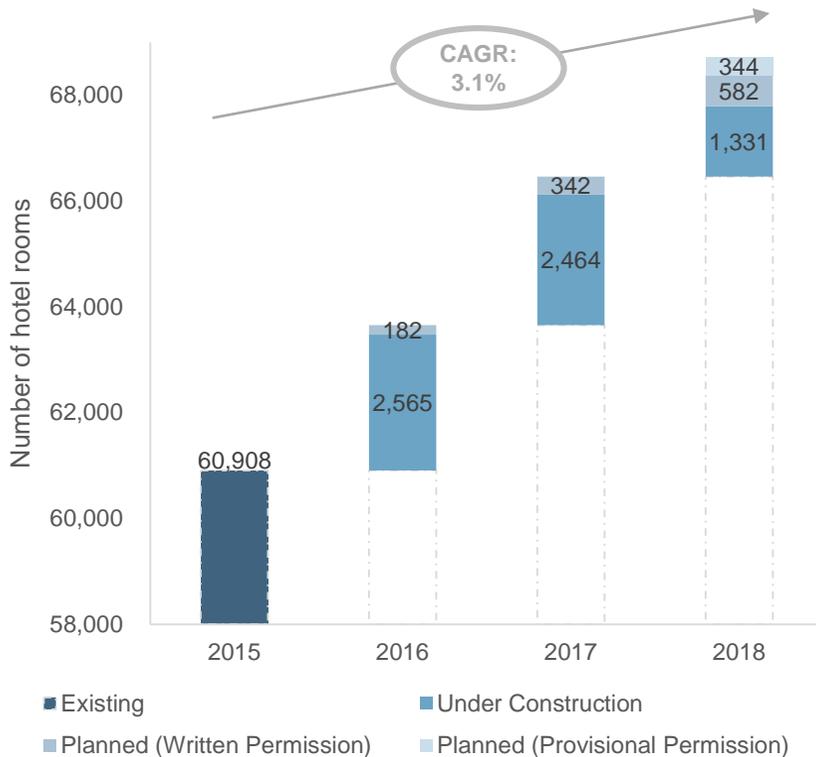
**Mid-Tier** - Includes hotels in the mid-tier segment and are primarily located in prime commercial zones or immediately outlying areas

**Economy** - Includes hotels in the budget segment and are generally located in outlying areas

# The hotel industry in Singapore braces itself for a large supply influx of new rooms, with more than 2,000 rooms slated to be completed by end of 2017 alone.

- The influx of new rooms is the greatest since the completion of the two integrated resorts in Marina Bay Sands (MBS) & Resorts World Sentosa (RWS) in 2010 and 2011 respectively.

Number of Hotel Rooms in the Pipeline



Source: NRI based on Urban Redevelopment Authority

Selected Recent/Future Hotel Developments (2017)

Expected Completion Year	Hotel Name	No. of Rooms
2017	JW Marriott Hotel Singapore South Beach	634
2017	The Warehouse Hotel	37
2017	Ascott Orchard Singapore	220
2017	Park Hotel Farrer Park	300
2017	Santa Grand Hotel Boat Quay	41
2017	Sofitel Singapore City Centre	223
2017	Andaz Singapore	342
2017	Courtyard by Marriott Singapore Novena	250
2017	The Duxton Club	49
2017	YOTEL Singapore	600
2017	Novotel Singapore on Stevens	254

Source: NRI based on various sources, Straits Times, TODAY etc.

## Singapore

Oversupply in each market has surfaced due to global economic slowdown.

1 Macro Fundamentals

2 Office Market

3 Residential Market

4 Retail Property Market

5 Logistics Property Market

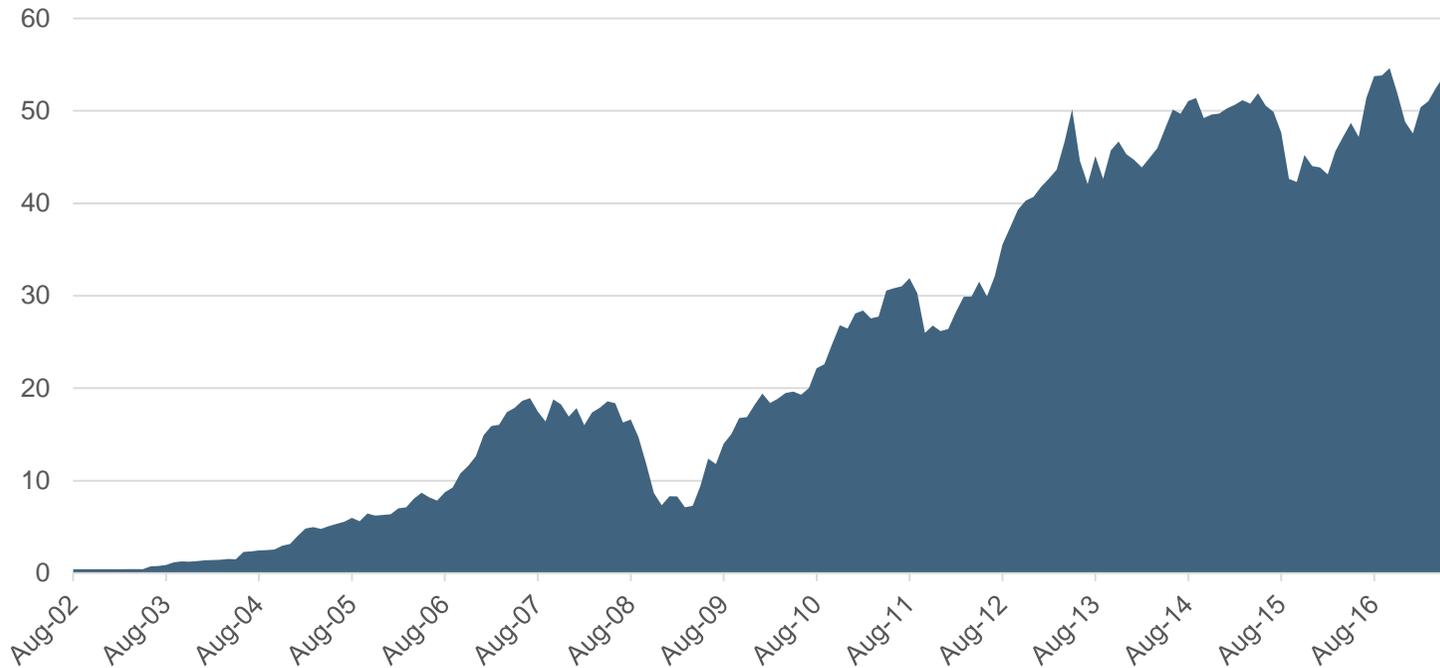
6 Hotel Market

7 Real Estate Investment Products

**S-REIT has grown rapidly since the successful launch of the first REIT in 2002. S-REIT market capitalization has now attained a scale of USD 55.6 billion.**

- There are 38 listed REITs as of the end of June 2017.

*Market Capitalization of REIT  
In USD Billion, 2002- 2017*

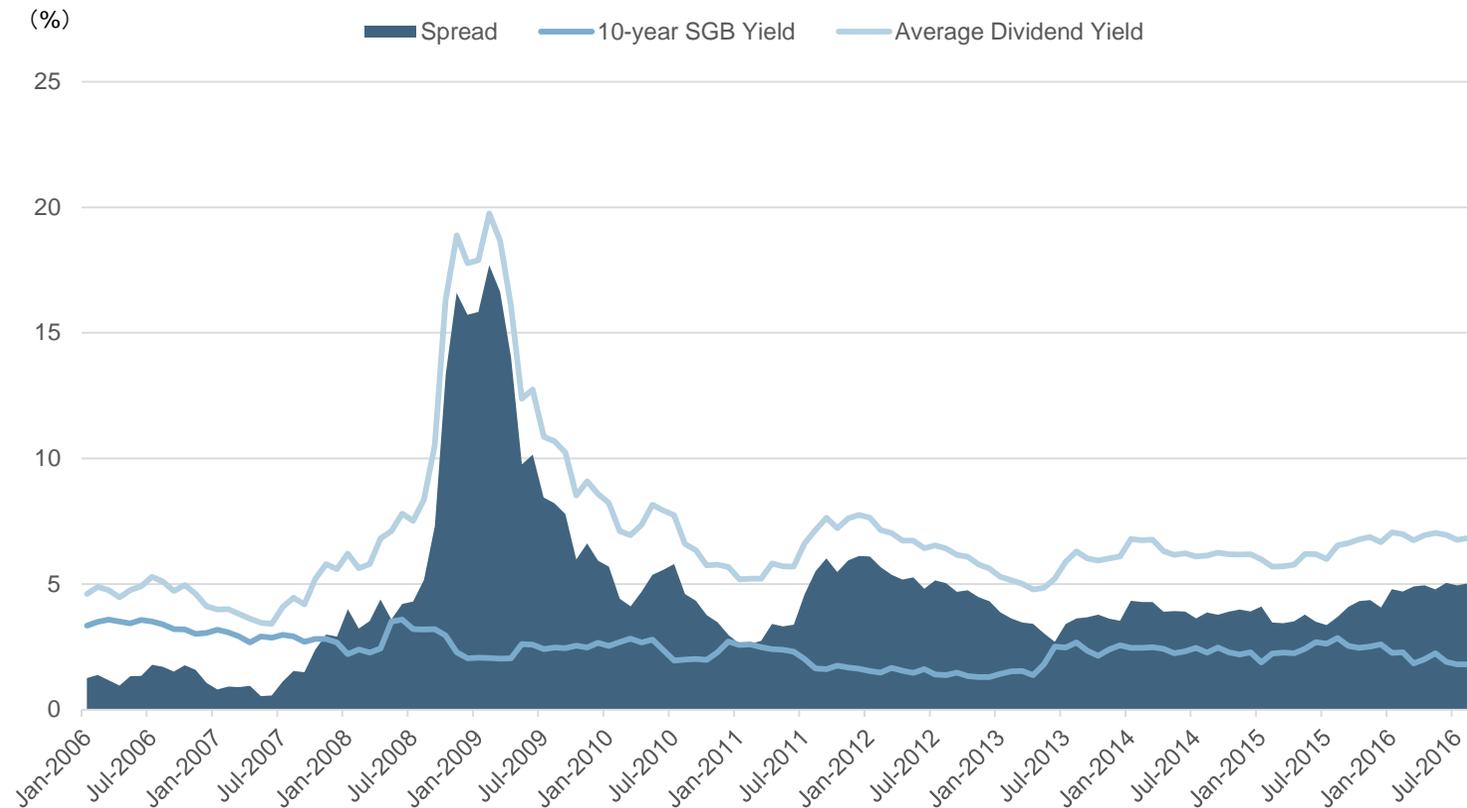


## REIT Market

Although the S-REIT dividend yield rose sharply in 2009 due to fears that the mortgage crisis would spread to Singapore, it has remained at approximately 7% since then.

■ Recent yield spread between S-REIT has also stayed close to 5%

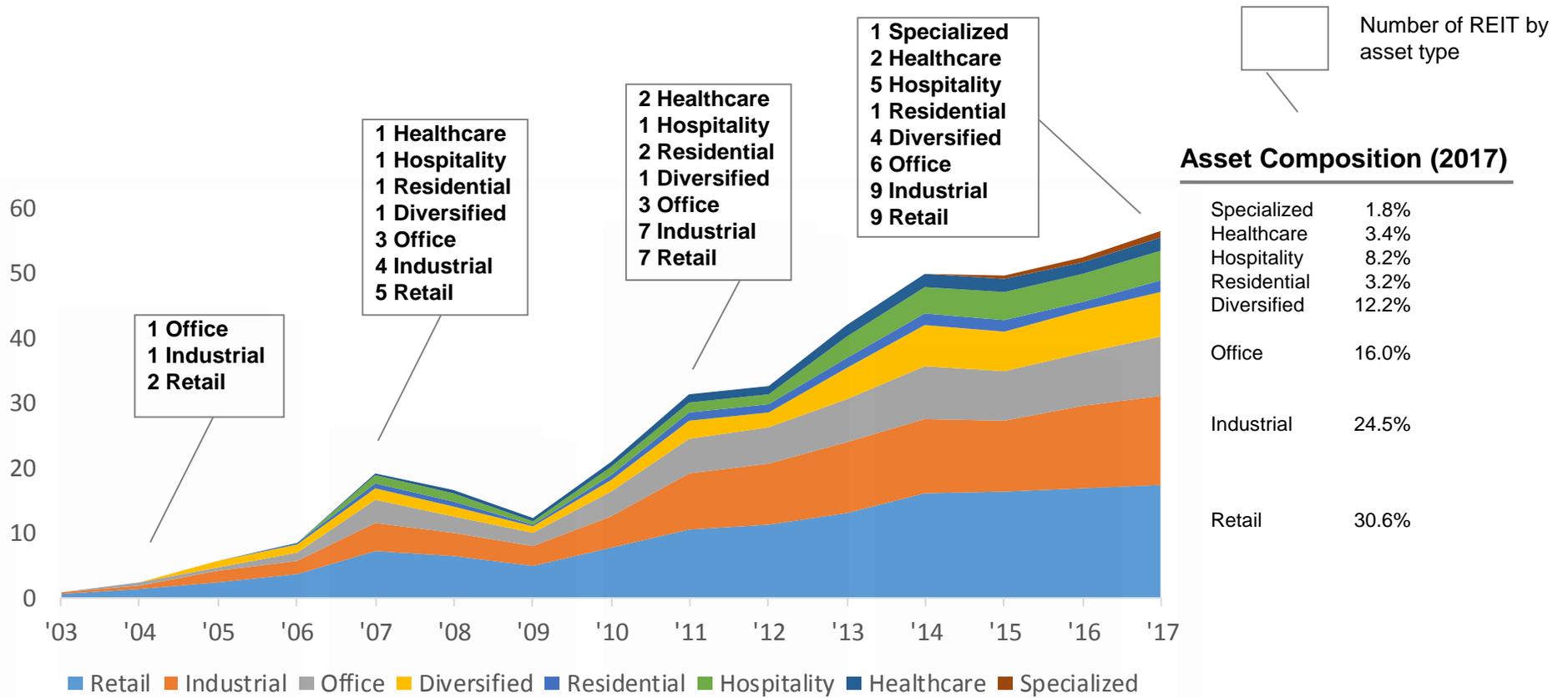
Average S-REIT dividend yield and spread with 10-year Singapore government bond



# REIT Market

Retail, Industrial and Office REIT are the major type of REIT in Singapore. S-REITs also diversify into residential, hotel & resort, healthcare and data center industry.

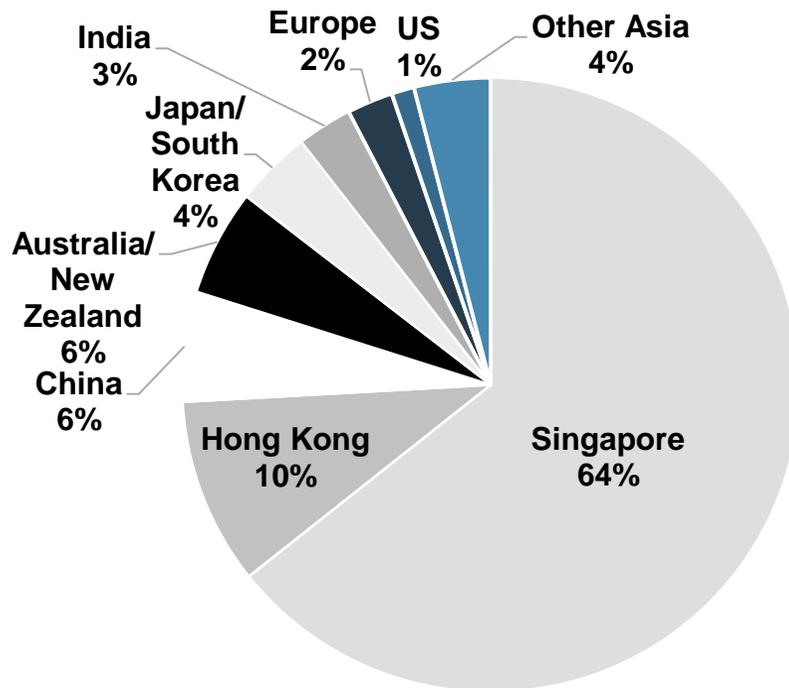
*Market Capitalization of REIT by Asset Type  
In USD Billion, 2003- 2017*



S-REITs have geographically diversified portfolio with 36% of international asset.

S-REIT Geographical Coverage by Asset Value

In %, 2016



- 36% of the total asset value of Singapore REITs is contributed by foreign property asset.
- Overseas property assets are mainly located in Hong Kong, China, Australia and New Zealand
- **Geographically diversified portfolio** is driven by these factors:
  - Singapore-based REIT have to venture overseas market due to the **limited domestic real estate market**. Furthermore, S-REIT is granted **tax exemption** on qualifying **foreign-sources income from overseas property**. As of 2015, 22 out of 34 S-REITs hold foreign real estate.
  - **Favorable tax environment** in Singapore actively attracts **foreign REIT** to list in the country.

<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
<b>Korea</b>	Economic stagnation has affected residential and retail, but office is stable.
<b>Taiwan</b>	Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.
<b>Singapore</b>	Oversupply in each market has surfaced due to global economic slowdown.
<b>Thailand</b>	Residential and office in Bangkok and its surrounding areas are stable under economic recovery.
<b>India</b>	Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.
<b>Russia</b>	Office and retail markets in Moscow have struggled due to prolonged stagnation.
<b>USA</b>	Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

## Thailand

Residential and office in Bangkok and its surrounding areas are stable under economic recovery.

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Macro Fundamentals

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Hotel Market

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Logistics Property Market

## Macro Fundamentals of Thailand

Thailand's population is around 66 million people. Thailand is currently under military coup and the current reign of King Rama X started since October 2016.

Thailand's map



Overview of Thailand

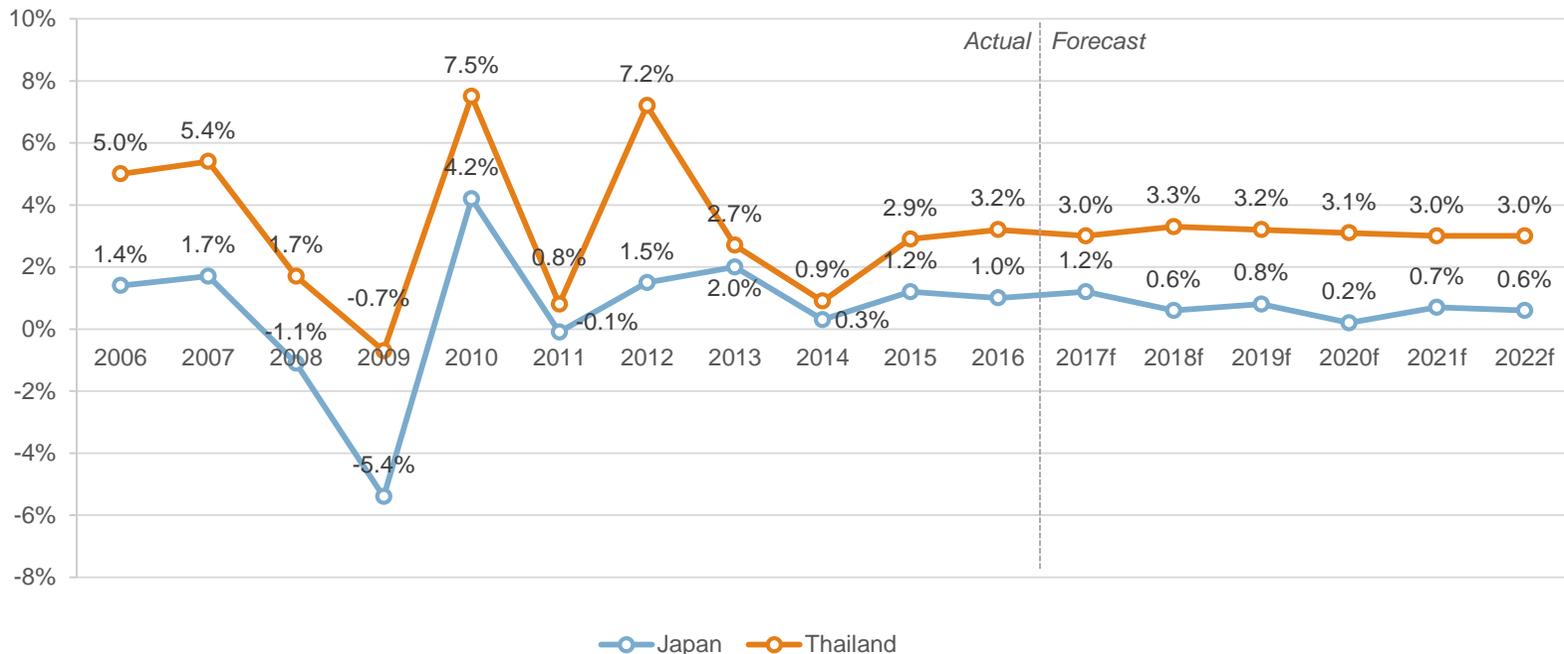
Country Name		The Kingdom of Thailand
National Characteristic	Population	65,931,550 people (As of 2017)
	Religion	Buddhism (94.6%), Islamism (4.2%), Christianity (1.1%), Hinduism, Sikhism and Others (0.1%) (As of 2014)
	Ethnic Composition	Thai (98.7%), Sino-Tibetan (0.8%), Austroasiatic (0.3%), Malayo-Polynesian (0.2%) (As of 2012)
Political Structure	Political System	Constitutional democracy
	Head of State	King Vajiralongkorn (King Rama X)
	Head of Government	Prime minister - General Prayut Chan-ocha
	No. of Ministries	20 ministries
Geographical Characteristic	Land Area	513,208 km <sup>2</sup> (Japan = 377,962 km <sup>2</sup> )
	Capital City	Bangkok - Population: 10,765,226 people (as of 2016)
	Time Zone	(UTC+07:00) Bangkok, Hanoi, Jakarta
Others	Currency	Thai baht (100 Yen = 30.9084 Thai baht) (As of 10 April 2017)
	Language	Thai (Official language)

## Macro Fundamentals of Thailand

# Thailand's economy shows sign of recovery and is expected to expand continuously.

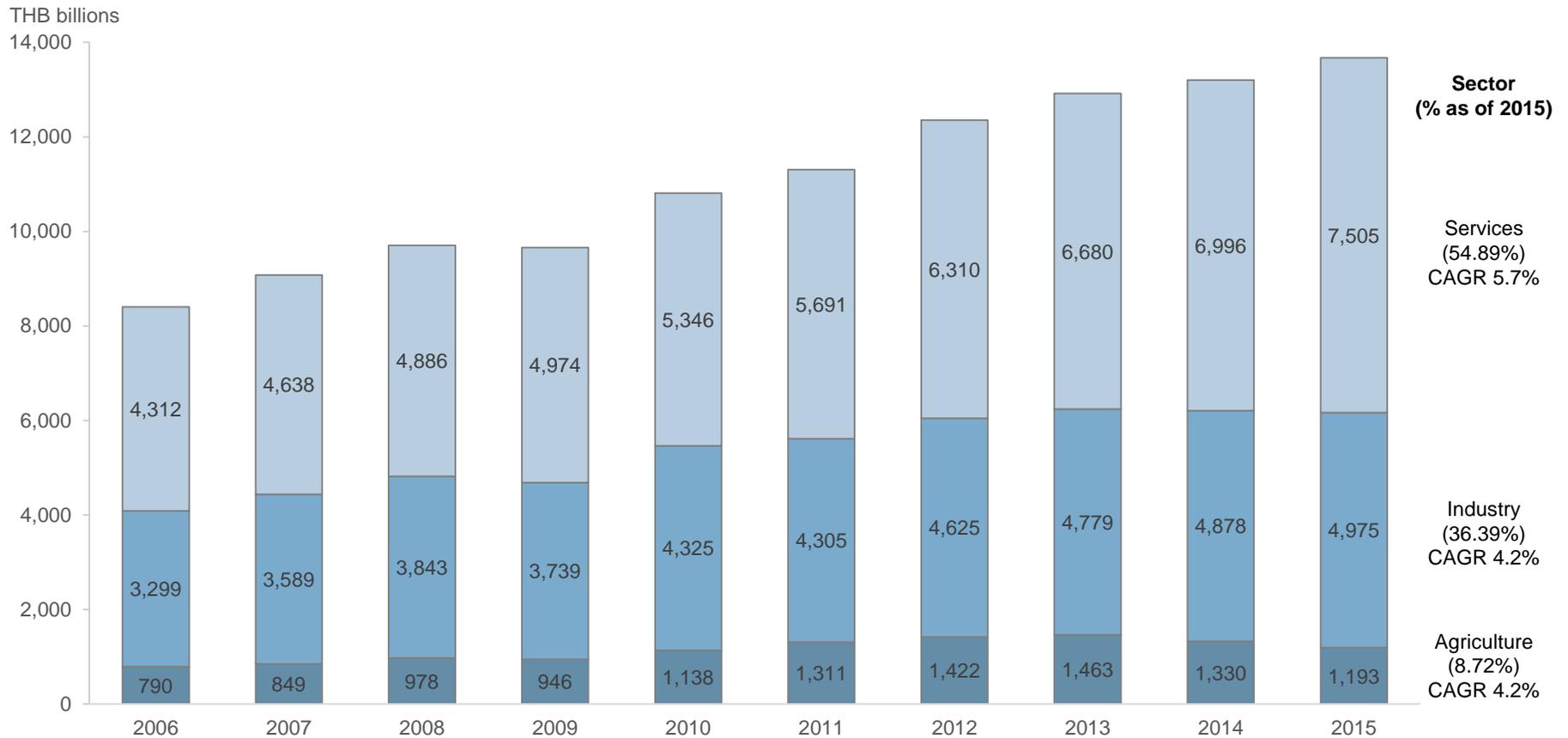
- It is expected that the growth of GDP of Thailand will be driven primarily from fiscal stimulus and tourist receipts.
- The government policy about public investment in infrastructure, advanced manufacturing and innovation-driven projects, recovery in services and private consumption could also underpin growth.

GDP annual growth rate of Japan and Thailand in 2006-2022f



## Service sector is a driver for GDP growth.

GDP by Sector 2006-2015 (Current Value)

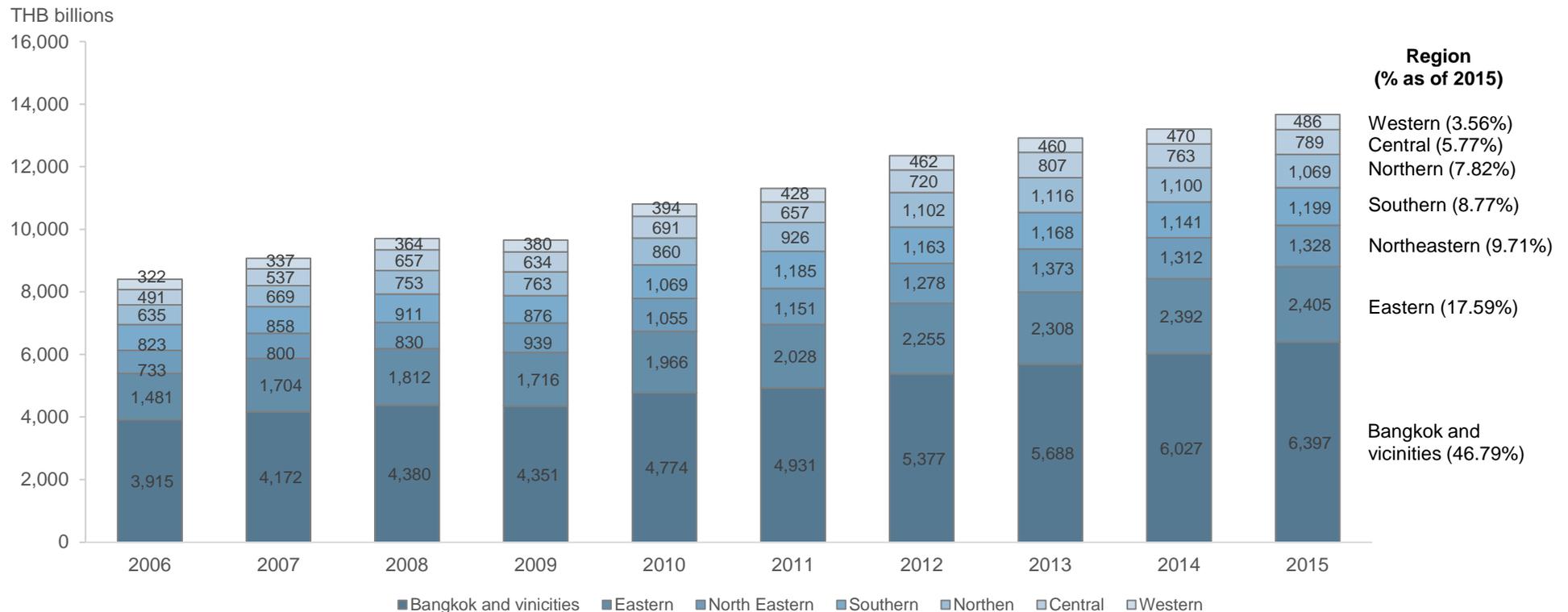


## Macro Fundamentals of Thailand

**Bangkok and vicinities have been the central of business in Thailand generating almost half of national GDP.**

- Eastern, which ranks the second GDP generator, is the special economic zone of the project Eastern Seaboard and the project Eastern Economic Corridor.

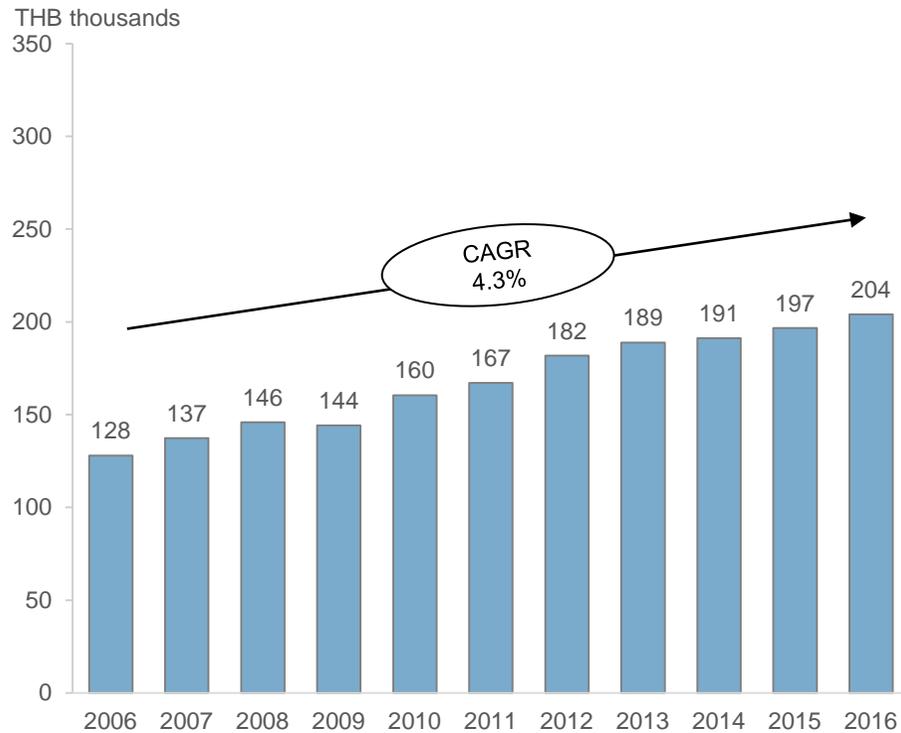
### Gross Regional Product of Thailand 2006-2015



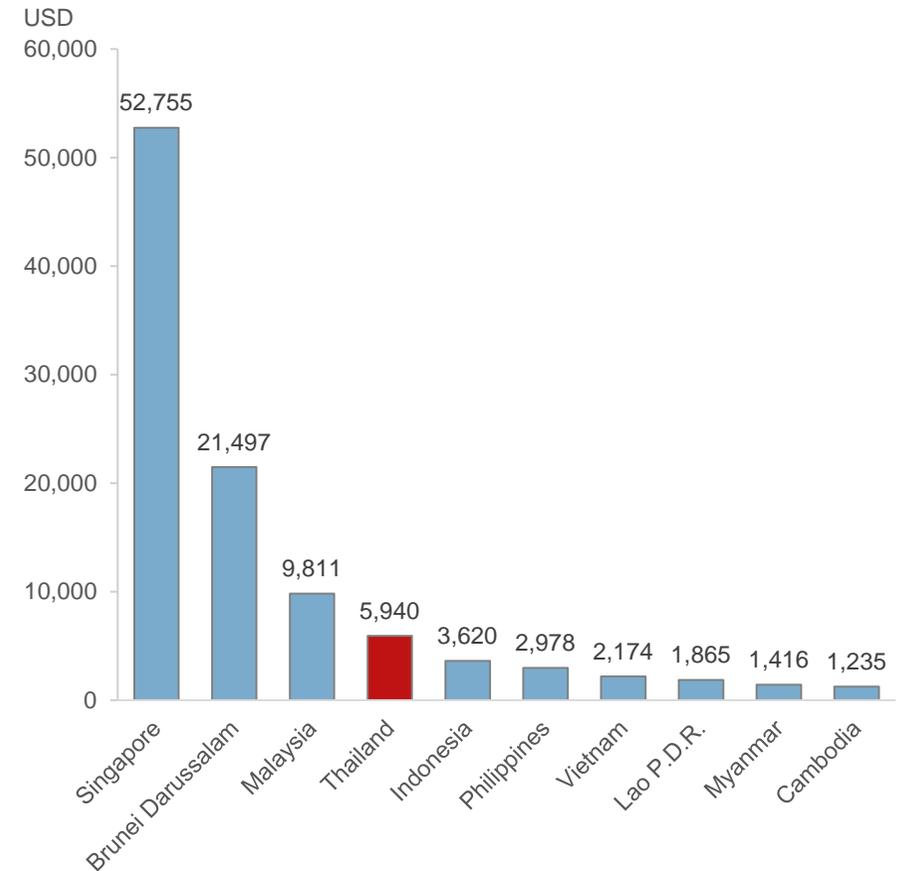
## Macro Fundamentals of Thailand

Thailand's GDP per capita has been growing from 2006–2016. Among ASEAN, it ranks the fourth after Singapore, Brunei Darussalam and Malaysia.

GDP per capita 2005-2016 – Thailand



GDP per capita 2016 – ASEAN countries

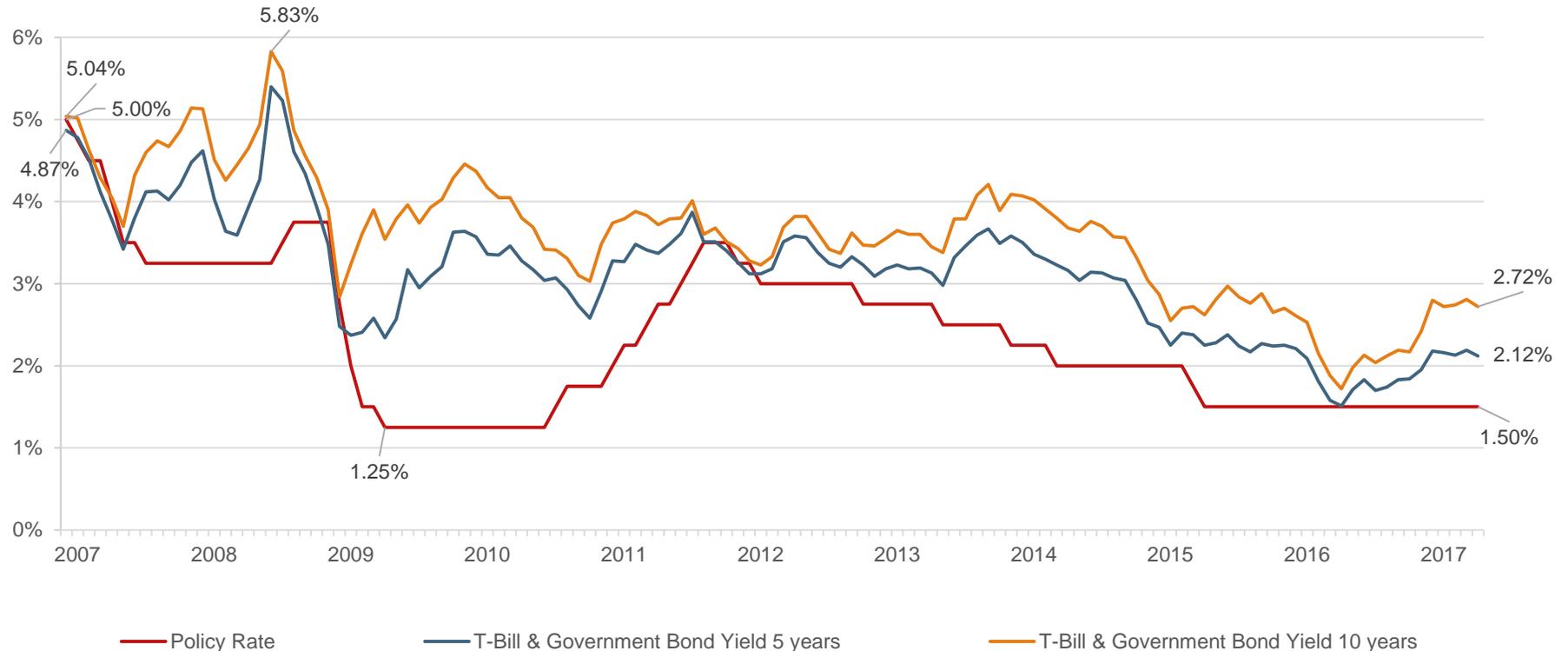


## Macro Fundamentals of Thailand

Since flooding in Bangkok in 2011, interest rate has consistently declined to 1.50% and it is expected to stay at this level to boost Thai economic growth.

- Bank of Thailand announced to remain the implementation of the Expansionary Monetary Policy in order to strengthen Thailand economic situation.

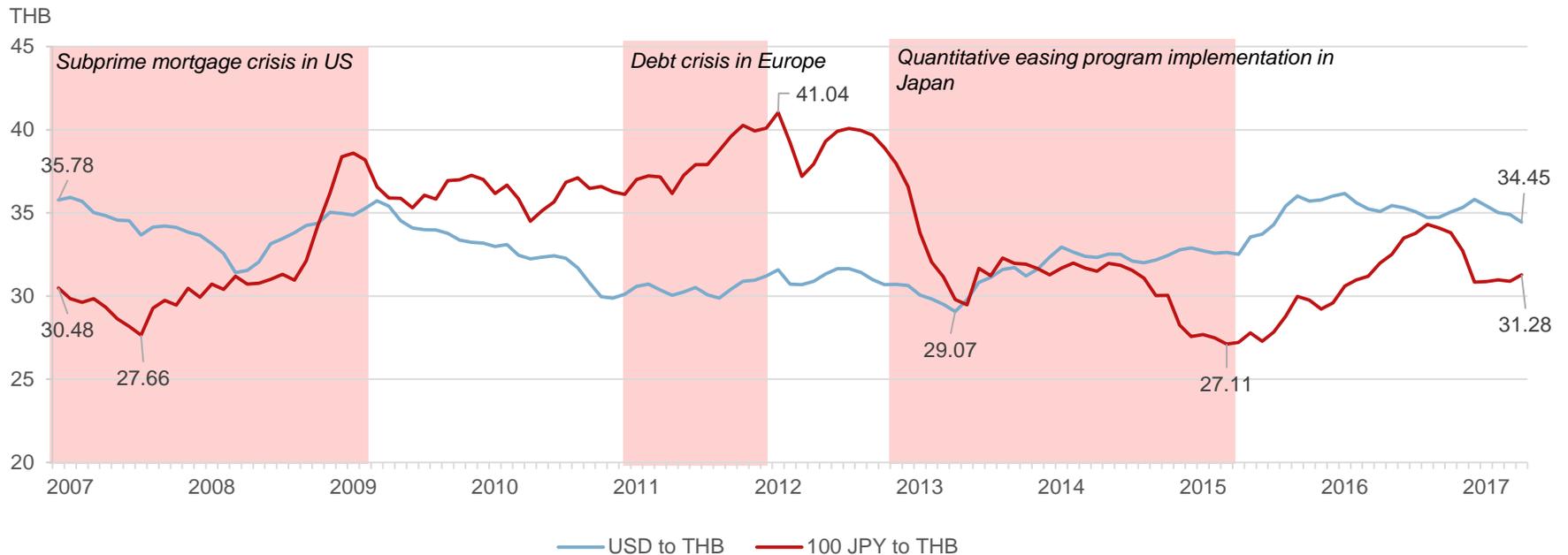
Thailand interest rate in 2007-2017\*



\*Rates at the end of month.

# THB had shown the depreciation against JPY after reaching the strongest point in 2015.

Exchange rate between THB to 100 JPY and THB to USD to THB in 2006-2017

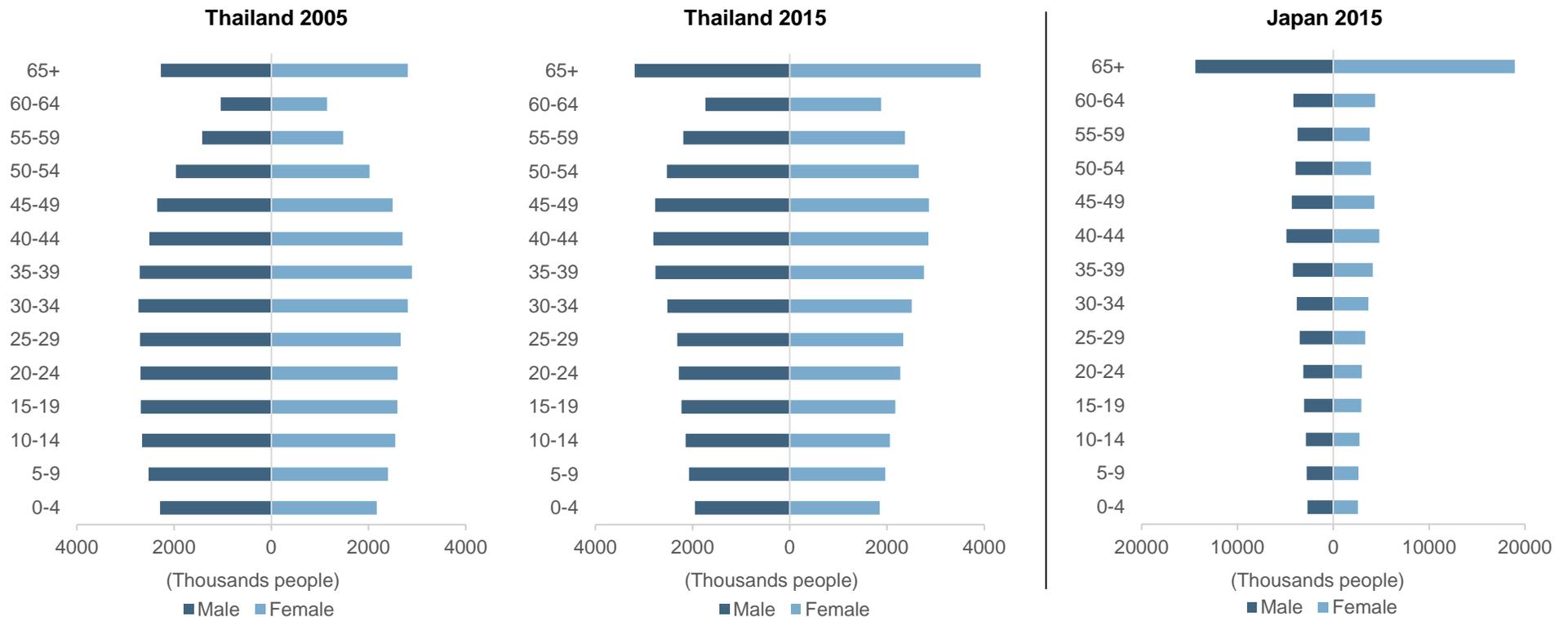


## Macro Fundamentals of Thailand

# Thailand's population has continually been aging and is expected to be aged society within 2025.

- In 2015, 18% of total population are 0-14 year age group and 10% are people over 65 years old.
- It is predicted that within 2025, the proportion of age group of over 65 years will be 16% of total population defining Thailand as aged society.

National population by gender and age group in 2005 and 2015

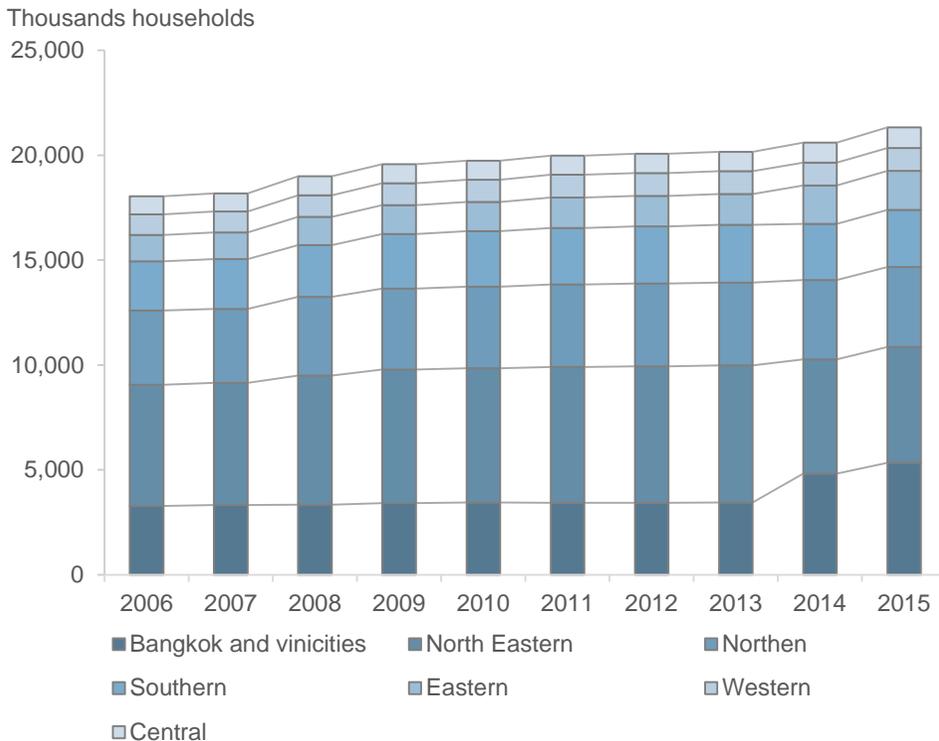


## Macro Fundamentals of Thailand

The number of households in Thailand is increasing while the family size tends to reduce. The type of family changes from extend family to nuclear one.

- In 2016, Thailand has 21,326,000 households in total. There is an increase in numbers of households in Bangkok and vicinities whereas the number of household in North Eastern, which is the highest one, has declined.

Number of households by regions 2006-2015



Thailand average household size in 2006-2015



Family living in Bangkok and vicinities earned the highest amount of income.

Average annual household income in different regions in 2007-2015

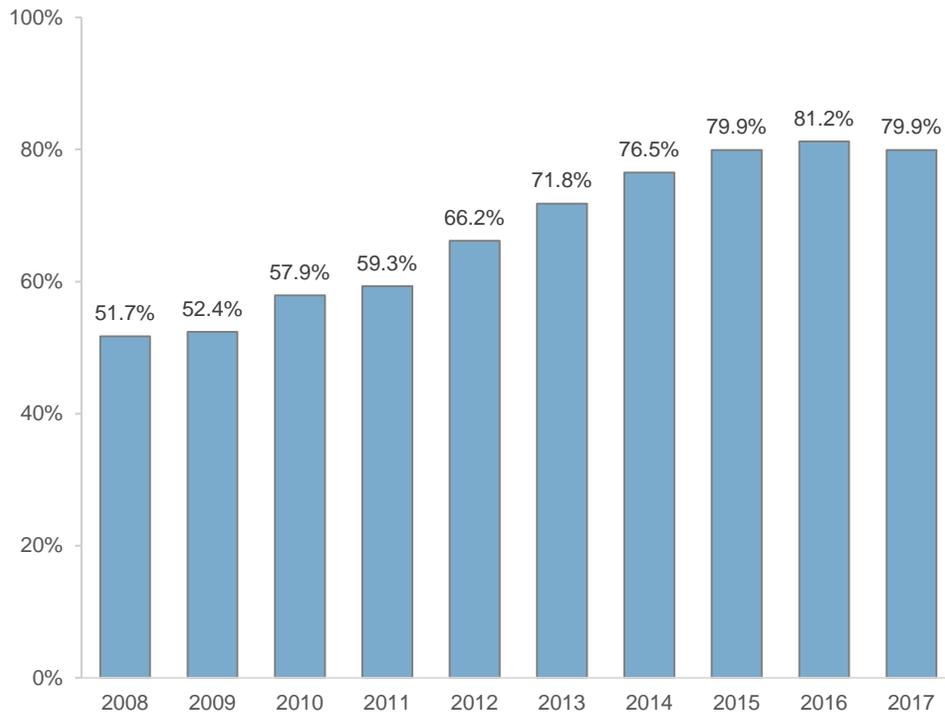
Region	Average annual household income (THB thousand)				
	2007	2009	2011	2013	2015
Bangkok and vicinities	327	346	347	395	437
Eastern	227	240	271	317	332
Central	226	280	268	345	305
Southern	233	263	314	326	303
North Eastern	153	178	215	220	248
Western	193	214	205	256	245
Northern	157	186	203	232	234
Average	216.57	243.86	260.43	298.71	300.57

## Macro Fundamentals of Thailand

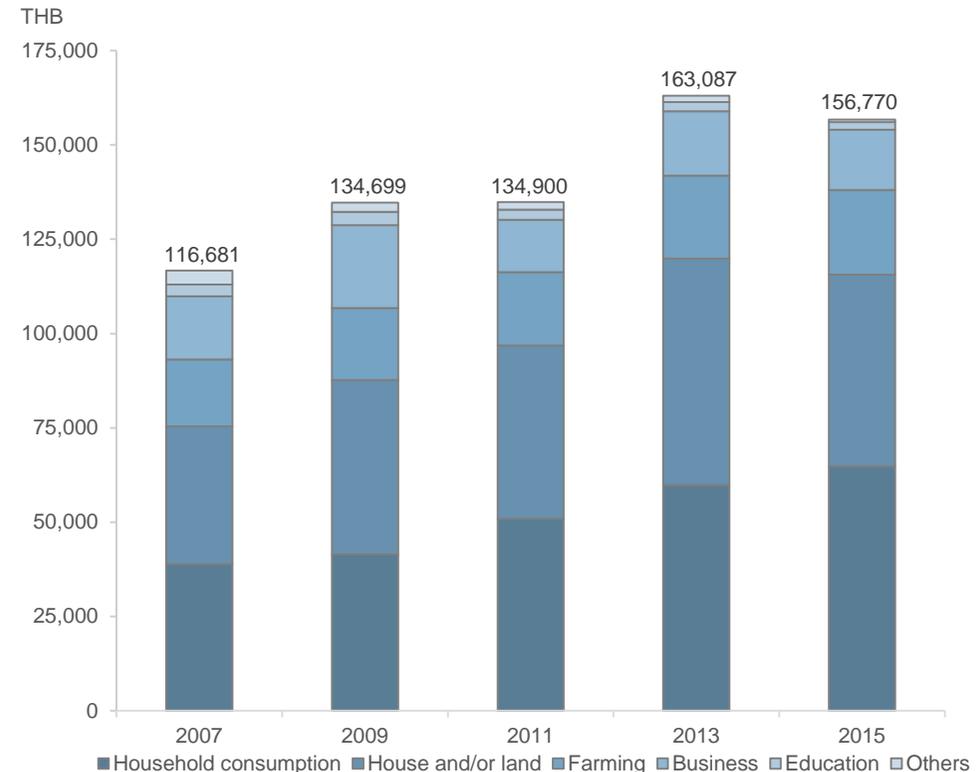
**Thailand household debt to GDP decreased in 2017 but it is still considered at high level. Household consumption and housing were the main purposes of borrowing.**

- Thailand household debt to GDP had been rising for a decade and just showed the sign of decline due to the growth in GDP and shrinking in personal loan resulting from more stringent loan standard by banks.
- Spending on household consumption and house and/or land contributed around 70% of average household debt in 2015.

Average household debt to GDP in 2008-2017



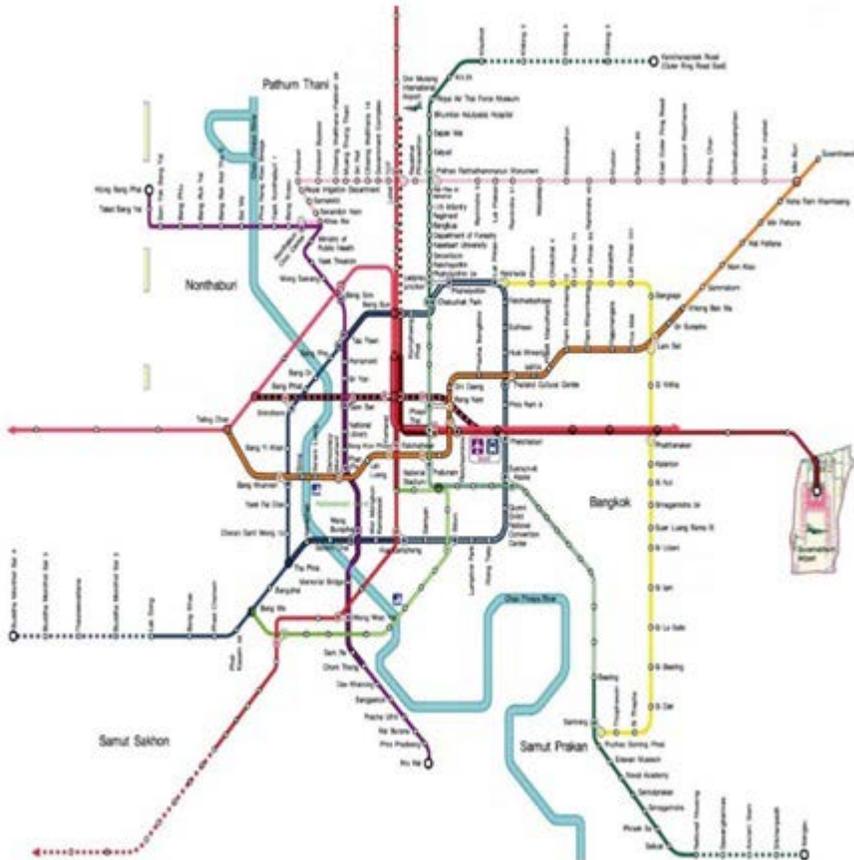
Average debt per household by purposes in 2007-2015



## Macro Fundamentals of Thailand

Electric train transport will cover most areas of BKK within 2022. 3 international airports (Don Mueang, Suvarnabhumi and U-Tapao) will be linked by Airport Rail Link.

### Mass Rapid Transit System (MRT)



Line	Route	Start construction	Open service
<b>Current MRT network</b>			
Airport Rail Link	Phaya Thai – Suvarnabhumi		Operating
Green	Mo Chit – Bearing National Stadium – Bangwa		Operating
Blue	Bang Sue – Hualumpung		Operating
Purple	Bang Yai – Bang Sue		Operating
<b>Planned projects</b>			
Dark Red	Thammasat University – Rangsit	2015	2018
	Rangsit – Bang Sue Hua Lampong – Maha chai	2015 Planned	2020 Planned
Light Red	Taling Chan – Bang Sue	2015	2018
	Bang Sue – Makksan - Hua Mak	2015	2018
Airport Rail Link	Don Muang – Bang Sue – Phaya Thai	2015	2019
Dark Green	Mo Chit - Khu Khot	2015	2020
	Bearing - Samutprakarn – Bangpu	2012	2019
Light Green	Taling Chan - Bangwa	2016	2021
	National Stadium – Yod Sae	Planned	Planned
Blue	Tha Phra - Bang Sue	2011	2019
	Hua Lumpung – Bang Kae	2011	2019
	Bang Kae - Putthanomthon Sai 4	2017	2021
Purple	Taopun – Ratchburana	2012	2019
Orange	Taling Chan – Minburi	2017	2022
Pink	Khae Rai – Minburi	2017	2022
Yellow	Lao Phro – Samrong	2017	2020
Gold	Krung Thonburi – Prachatipok	2017	2020
Grey	Vacharaphol – Wutthakat	-	-
Airport Rail Link	Don Mueang - Suvarnabhumi - U-Tapao	-	-

## Thailand

Residential and office in Bangkok and its surrounding areas are stable under economic recovery.

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3 Residential Market

4 Hotel Market

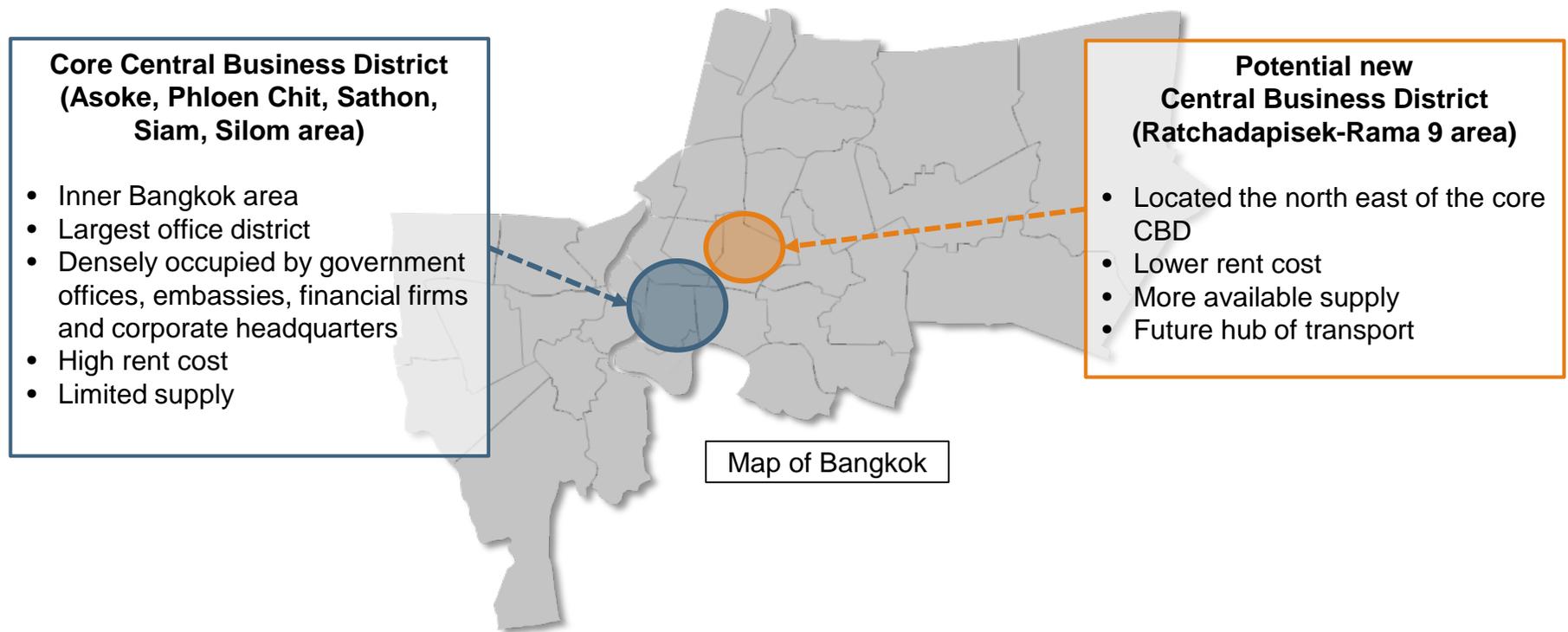
5 Logistics Property Market

## Office market

**Office market in Bangkok is concentrated in CBD Inner Bangkok and currently has been spreading to city fringe considered to be potential new CBD.**

- Due to the scarcity of land for development in CBD and the expansion of mass transit system to surrounding areas, the area in city fringe such as Ratchadapisek-Rama 9 has been developed to be another business district.

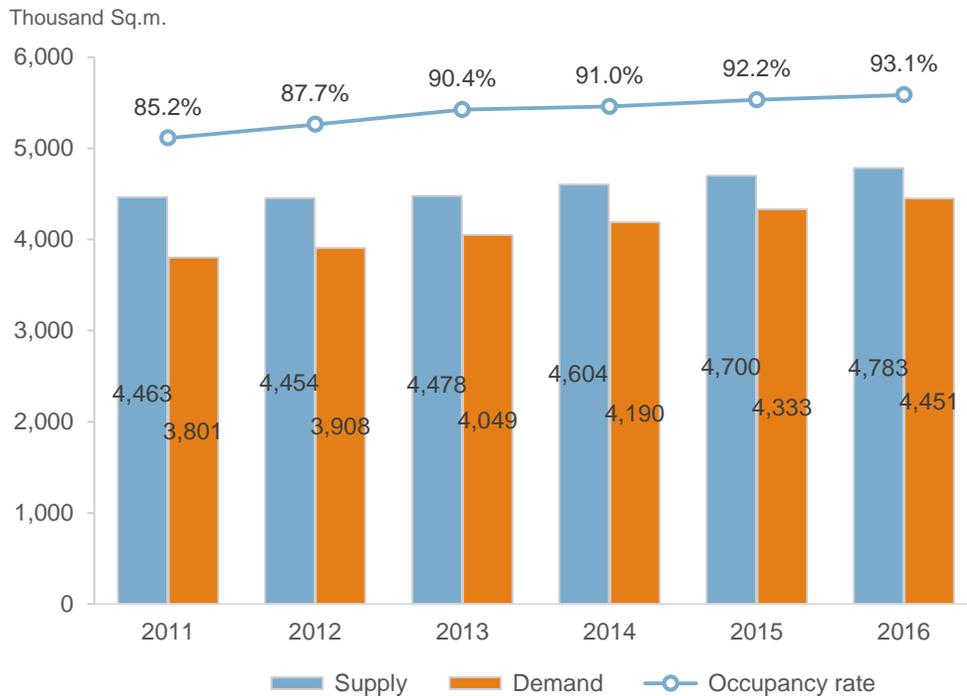
### Business districts in Bangkok



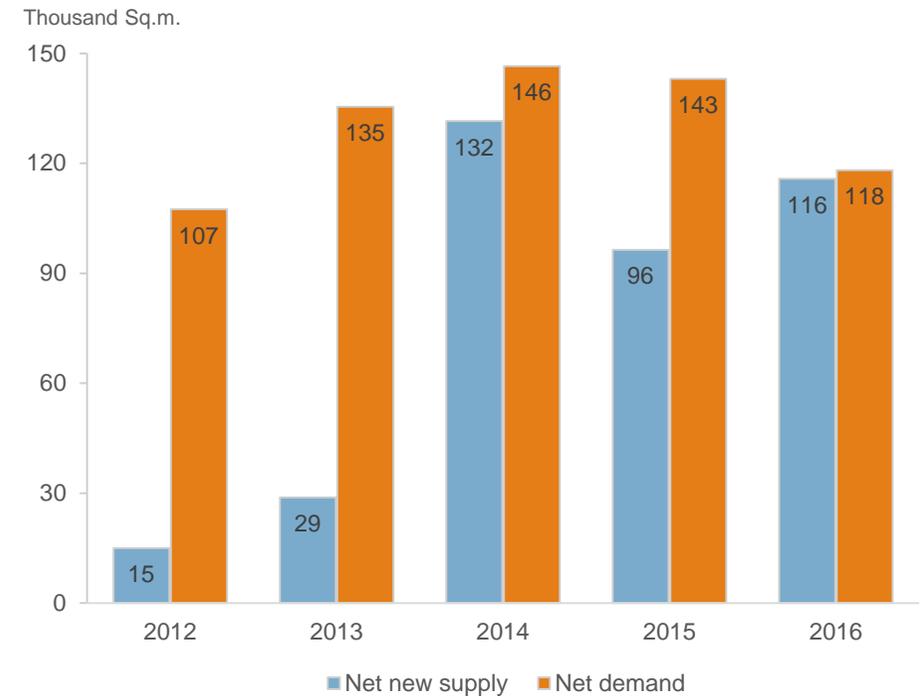
## Office market

The demand is expected to increase due to business expansion and government's policy encouraging new business set-up and investment promotion.

Bangkok office accumulated supply, demand and occupancy rate in 2011-2016



Bangkok annual net new supply and net demand in 2012-2016



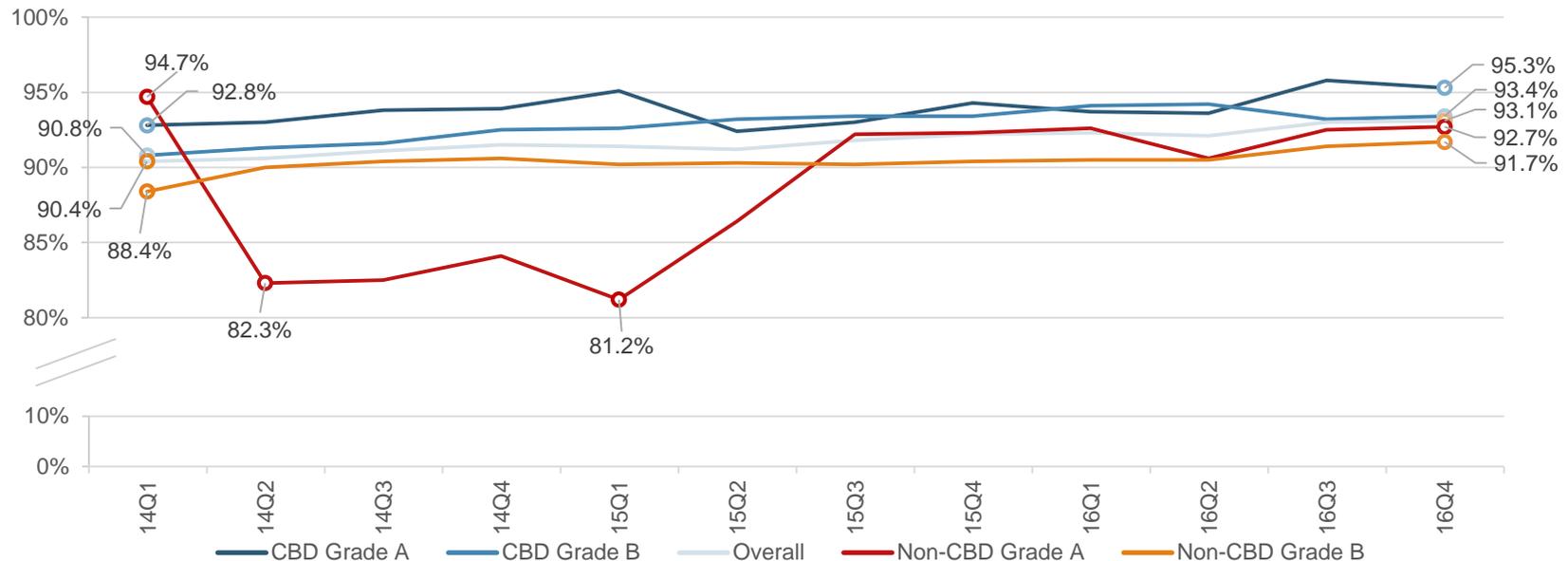
Note: these figures exclude multi-owner occupied premises and office buildings smaller than 5,000 Sq.m.

## Office market

**Even though there was more supply added for non-CBD Grade A offices, the occupancy rate turned at high level in all areas.**

- The change of occupancy rate of non-CBD Grade A is mainly resulted from the completion of new buildings and the movement of tenants to the new ones: The 9<sup>th</sup> Tower (57,618 sqm.), AIA Capital Centre (54,000 sqm.) Bhiraj Tower (32,000 sqm.), G Tower (66,000 sqm).
- The decline of amount of occupied space in CBD Grade B buildings might be a result of relocation of tenants from CBD Grade B buildings to new properties in non-CBD area due to rising rents and limited space.
- Asking rent, space availability, easy access by mass transit, and good quality of office supply with supporting amenities are the factors supporting an increase of renting in non-CBD area.

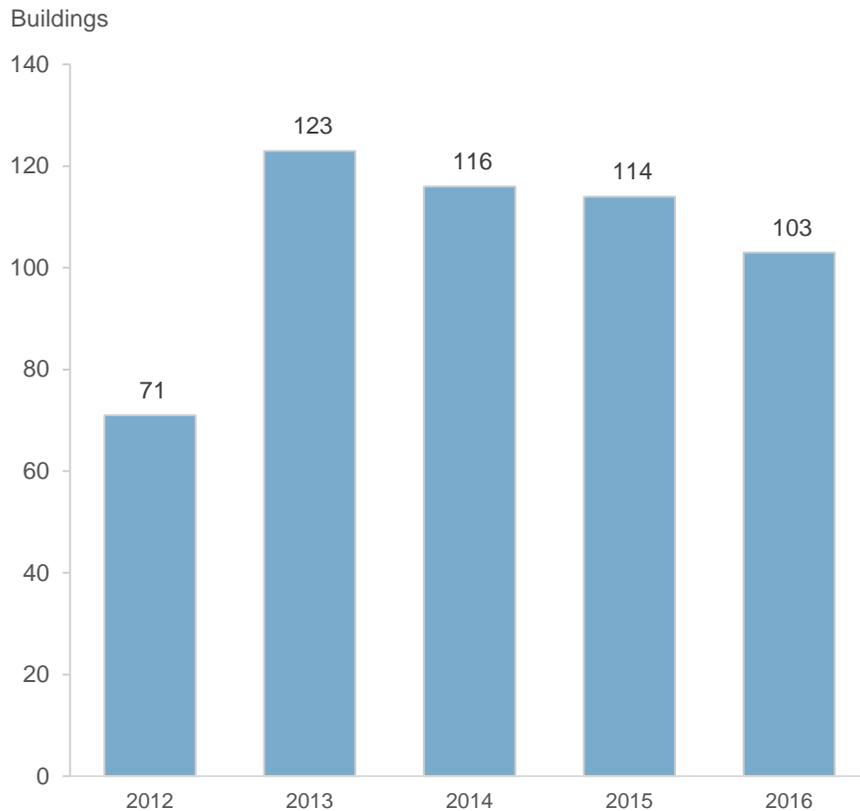
Occupancy rate by grade in 2014Q1-2016Q4



## Office market

**Around 77% of the additional volume of supply for the next 3 years will be located in non-CBD area**

Number of office building construction permits in CBD and non-CBD



Planned future office supply in CBD and non-CBD 2017-2019

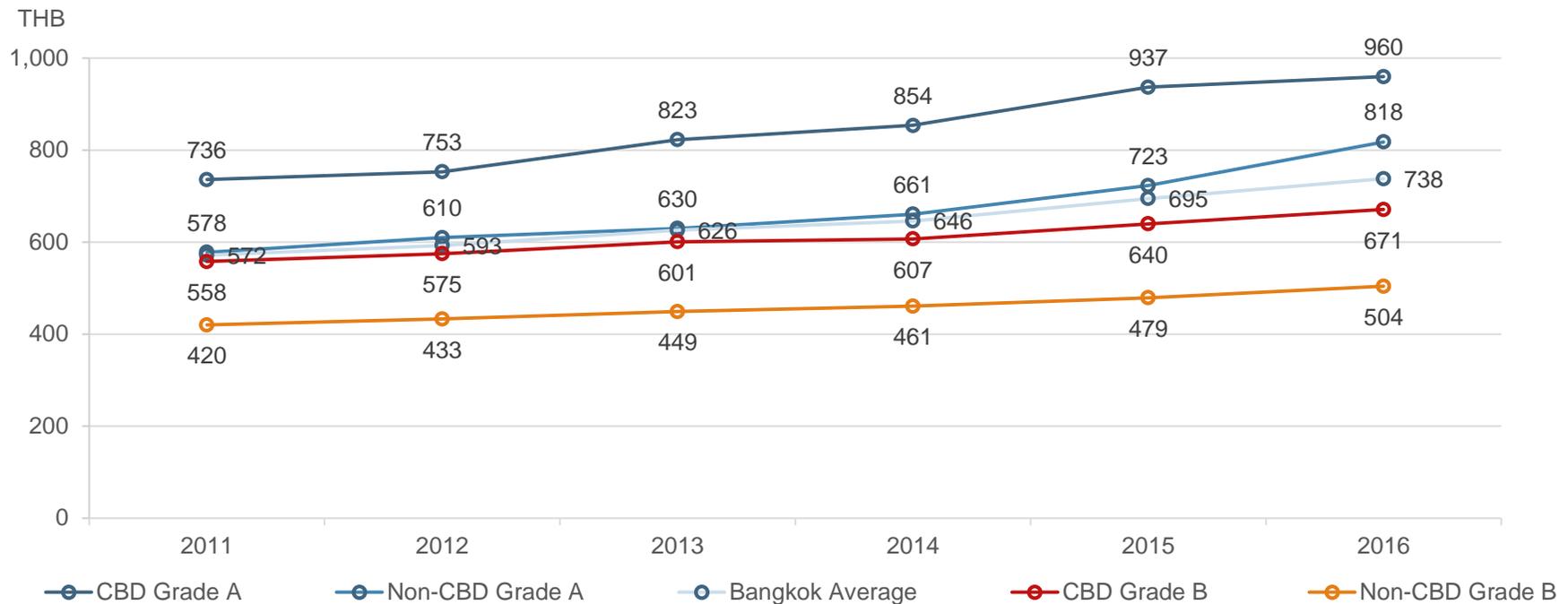
Zone	Buildings	Space (sqm.)	Expected completion year
CBD	Gaysorn Office Tower	32,000	2017
	Samyan Mirttown	7,000	2019
Non-CBD	G Tower (North Tower)	50,000	2017
	MS Siam Tower	48,000	2018
	Bhiraj Tower at BITEC	42,531	2017
	Singha Complex	37,000	2018
	T1 Office building	34,000	2018
	Shinnawat 4	31,880	2017
	Ladprao Hills	25,087	2017
	Aree Hill	23,340	2018
Cosmo Office Park	12,000	2017	

## Office market

**Rental rate is trending upwards, and this trend is expected to continue in 2017 due to increasing demand and limited supply especially in CBD.**

- In 2016, the overall average asking rent is increasing 6.2% from 2015 to be THB 738 per sqm..
- The highest rental rate growth is shown in non-CBD Grade A buildings increasing 13.1%.

Bangkok office asking rent per square meter by grade in 2011-2016\*



\*price at the end of year.

## Thailand

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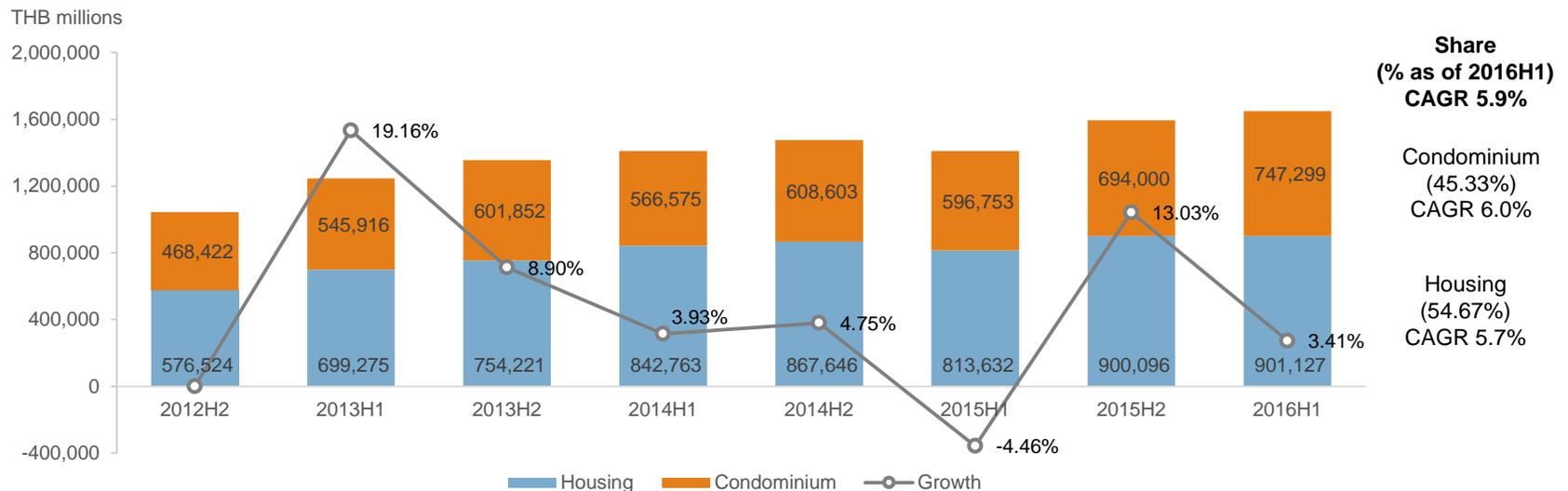
Logistics Property Market

## Residential Market

# Residential market in Bangkok and vicinities have been expanding but with decreasing growth rate due to tightened lending criteria.

- Apart from the effect of economic slowdown, more stringent mortgage loan criteria by banks significantly affected both buyers and developers especially small and medium-sized investment companies as well as newcomers of the real estate industry resulting in slow pace of sales and supply.
- Some Thai developers started the joint ventures with foreign companies to bring in innovation, to improve construction process, architecture and design, and to finance projects.
  - For example, Mitsui Fudosan and Ananda Development, AP and Mitsubishi Estate, and Sena Development and Hankyu Realty.
- In October 2015, the stimulus package which is the temporary reduction of transfer and mortgage fee was announced in order to boost the residential market after the market shrinking affected by the coup in May, 2014.

Market value of housing and condominium in Bangkok and vicinities 2012H2-2016H1 (THB million,%)

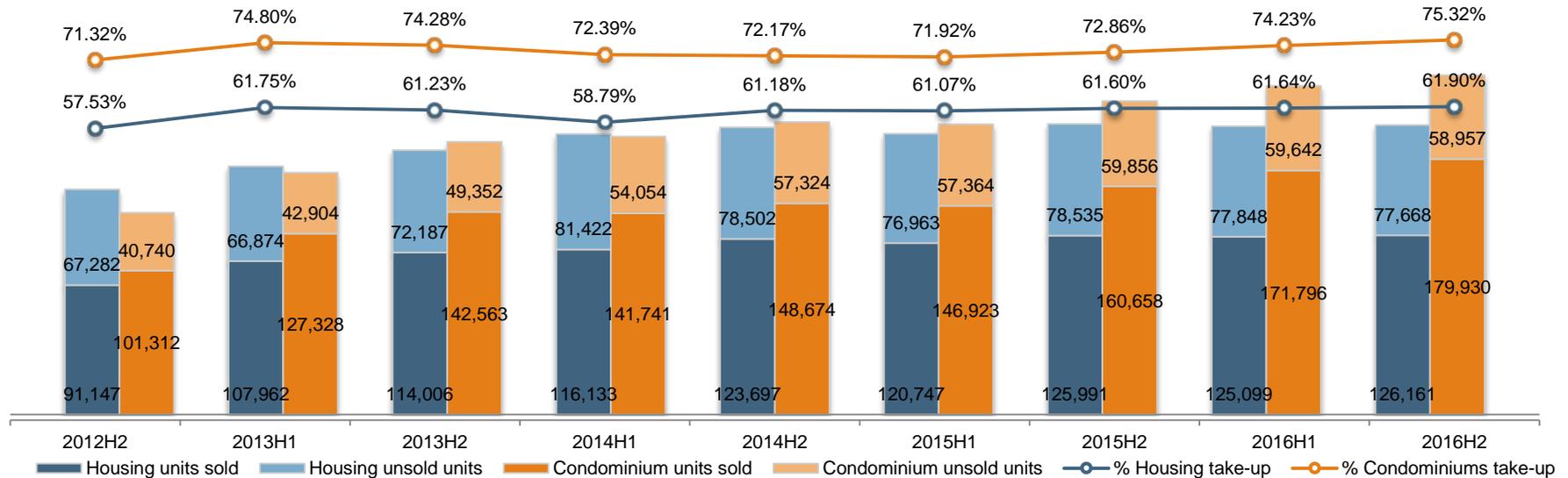


## Residential Market

The demand of condominium markets is supported by rising number of smaller size of family, changing lifestyle and convenience in transportation and living.

- A sign of low growth in new supply is showed in both markets since developers aim to postpone new projects launching until the inventory will be absorbed.
  - Oversupply could be an issue for this market especially condominium in the peripheral Bangkok since there is remaining built-but-unsold inventory as well as supply of land for development is still high.

The number of total supply and the take-up rate of housing and condominium in Bangkok and vicinities 2012H2-2016H2 (units,%)

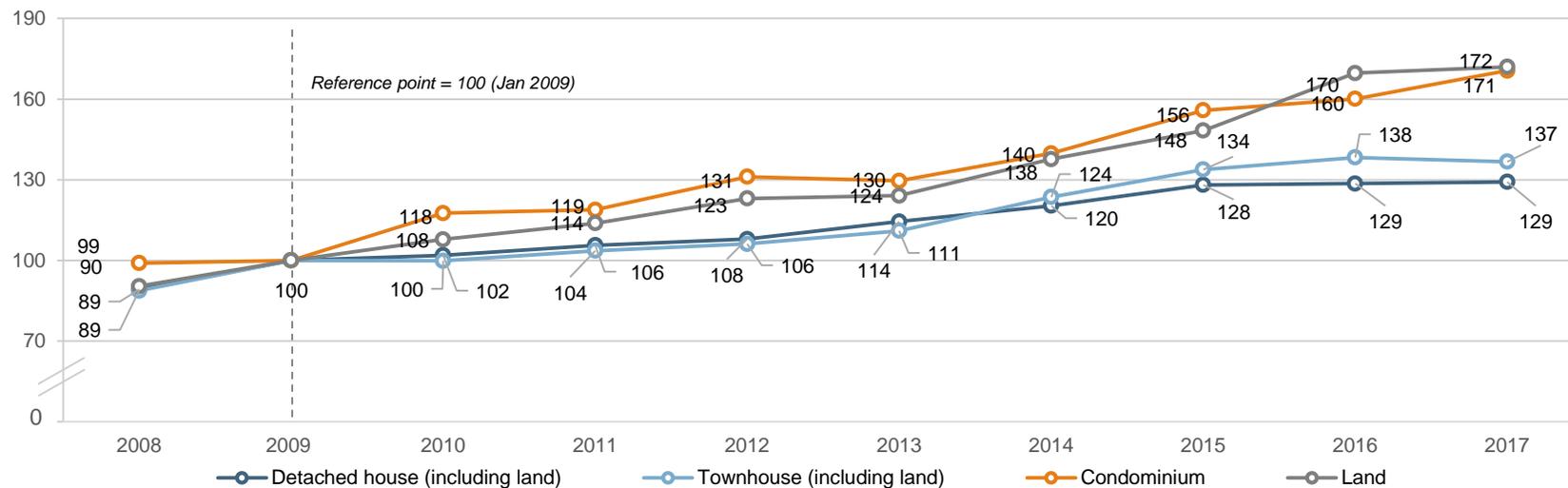


## Residential Market

# Prices index of all types of properties have risen while land's and condominium's price index ranked the top.

- Land price is the factor which has the most influence on the price of condominium and houses particularly condominium projects in the downtown area. In 2016, overall land price in Bangkok increased approximately 4%.
  - Areas along the mass transit train lines saw an increase in price about 6.5%-8.9%. While midtown and suburban showed the land price appreciation around 2.6%-4.3%, land prices in downtown area rose 6.4%.

Land price index and house price index by type of house for Bangkok and vicinities in 2008-2017



Note: 1. Single detached house including land, town house including land and condominium price indices have been constructed by using hedonic regression method (Rolling window and time dummy). (3-month moving average),

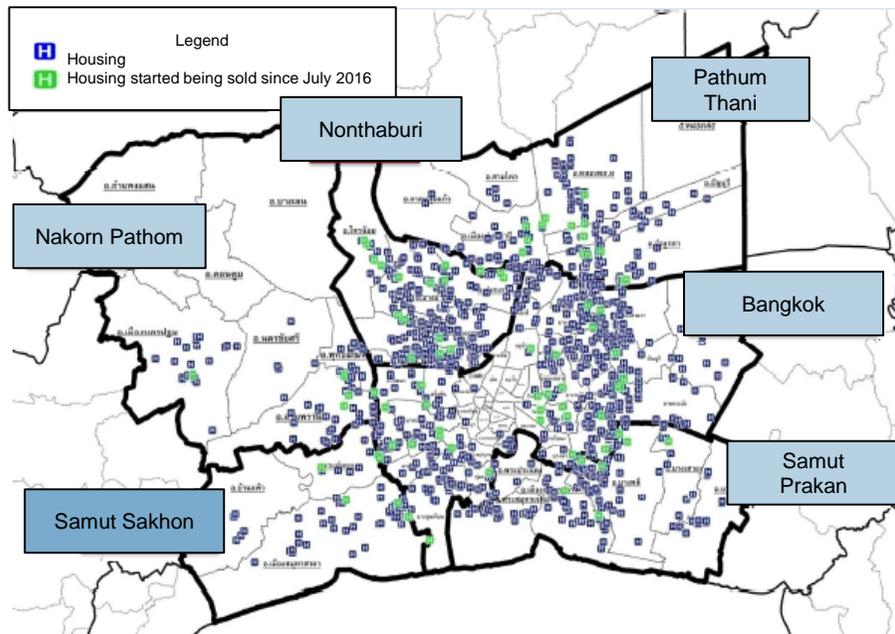
2. Land price index has been constructed by using Stratification method with monthly weight. (3-month moving average)

## Residential Market

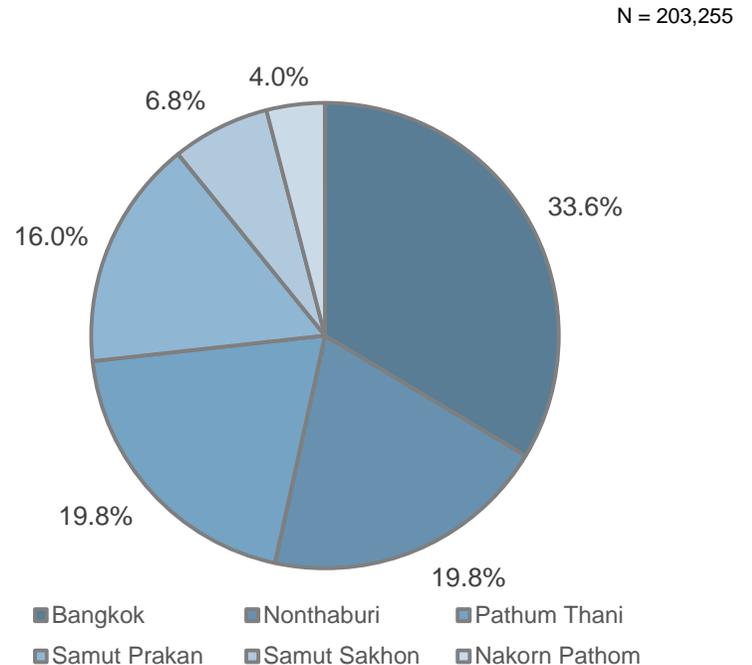
The majority of housing supply is condensed in suburban areas in Bangkok. However, they have been diffused to vicinities due to price and availability of land.

- Criteria for good location could be the connected transportation network and the expansion of train lines in suburban areas.

The dispersion of housing supply in Bangkok and vicinities in 2016H2



Proportion of housing supply by areas in 2016H2 (% of total supply units)



## Residential Market

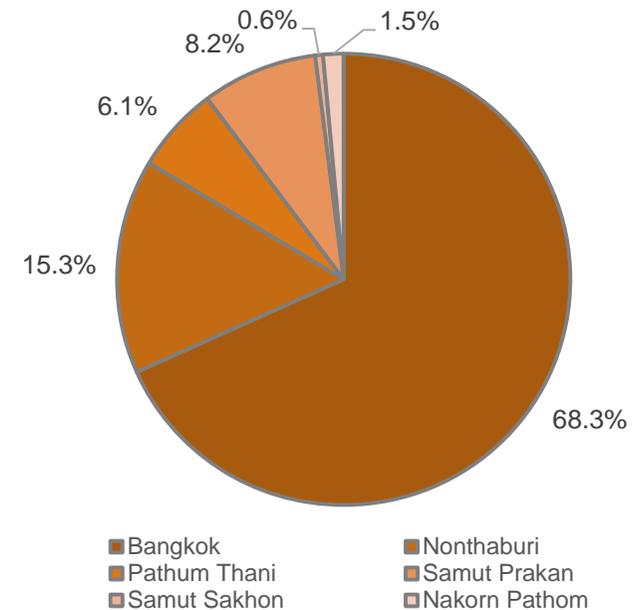
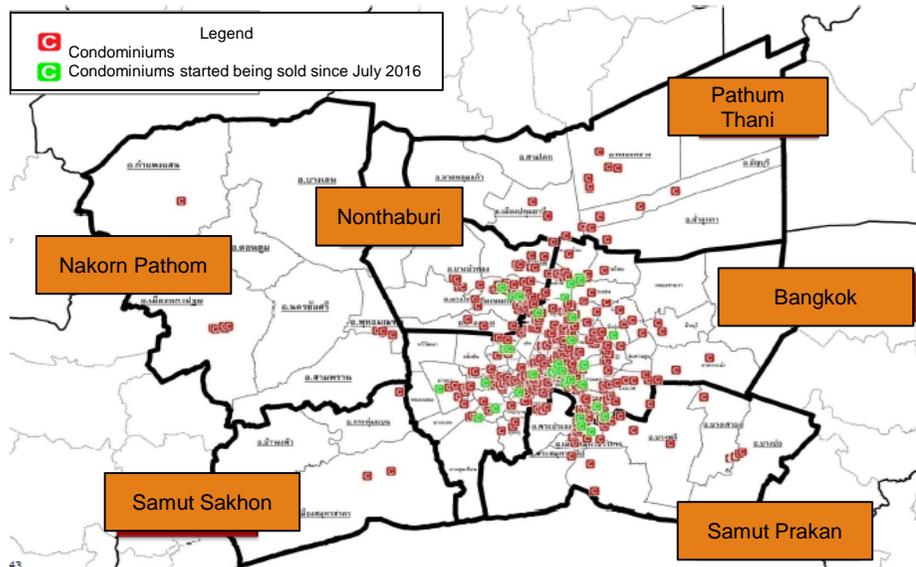
**In Bangkok, 70% of supply is in midtown and suburban area but projects with the highest value are in the downtown area.**

- Supply of available land for development is still high in midtown and suburban area in Bangkok, where will be the areas of the expansion of mass transit lines and facility development.

The dispersion of condominiums supply in Bangkok and vicinities in 2016H2

Proportion of condominiums supply by areas in 2016H2 (% of total supply units)

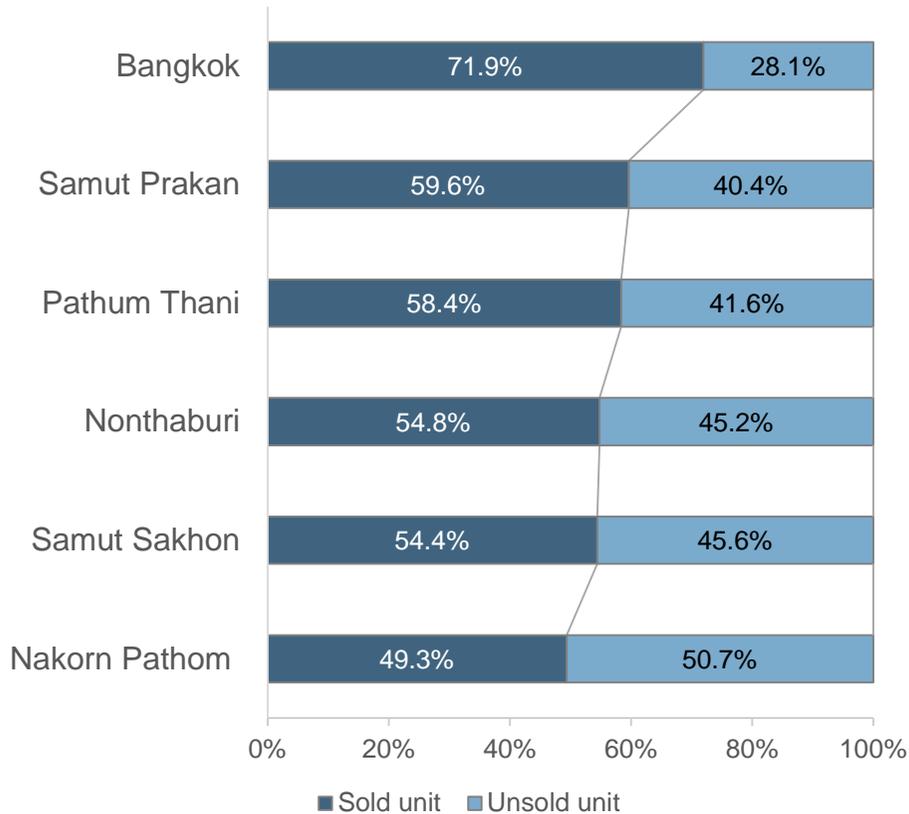
N = 238,887



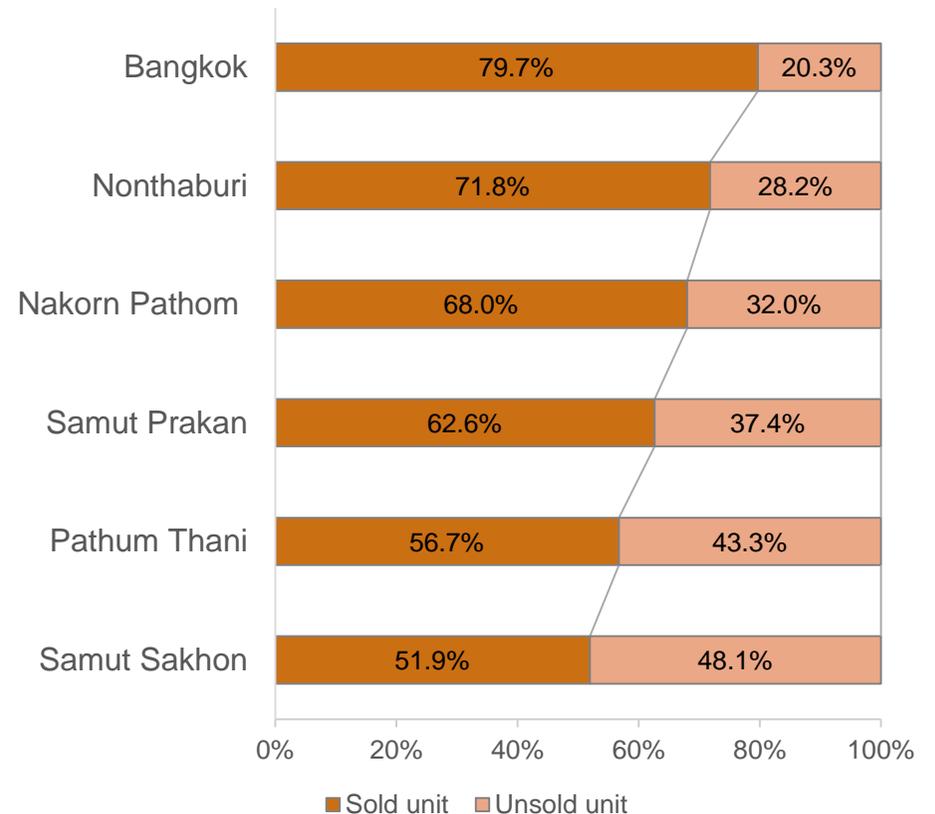
## Residential Market

**Bangkok has the highest sold rate in housing and condominium market compared to other vicinities because of convenience of transportation and facilities.**

The comparison of sold and unsold unit by areas for housing in 2016H2



The comparison of sold and unsold unit by areas for condominium in 2016H2

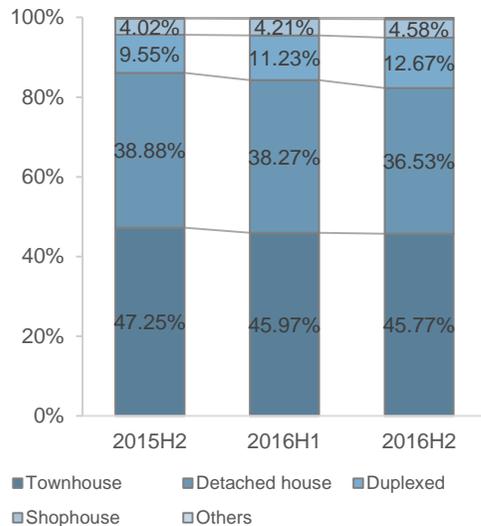


## Residential Market

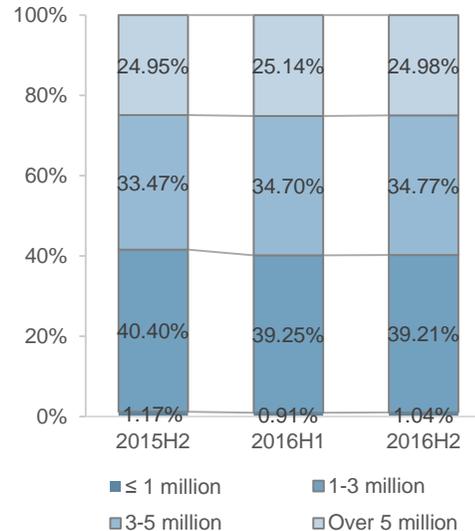
**Townhouse and THB 1–3 million house were the best selling products in term of units. However, over THB 5 million house showed increasing take-up rate.**

- Townhouse and detached house showed a decreasing trend on demand but they still occupied around 85% of total sold units. Prime townhouse in downtown or midtown became more demand since its price per square meter is lower than condominium in midtown.
- The number of house transfer was much less than sales, particularly in houses which are less than THB 2 million, because of tightened lending restrictions by banks.
  - The mortgage rejection rates were as high as 50% since borrowers especially low-to-middle-income ones have been faced with the situation of higher level of personal debt than the required criteria by banks.

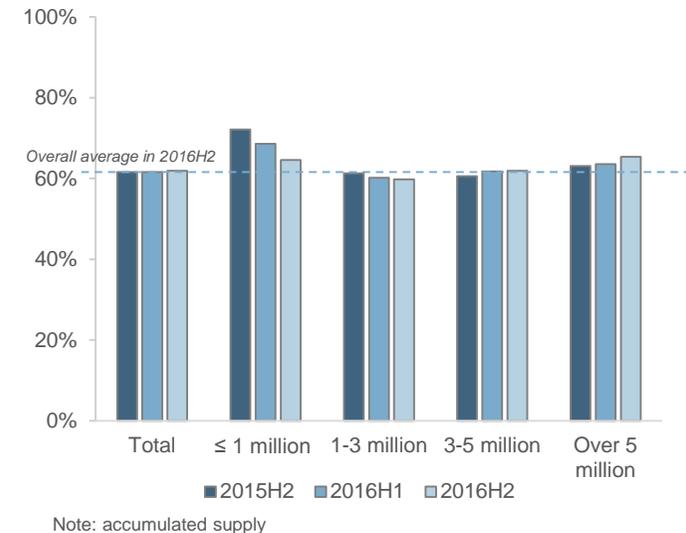
Sold units of houses by types in 2015H2-2016H2



Sold units of houses by price ranges in 2015H2-2016H2



The take-up rate of houses by price ranges in 2015H2-2016H2

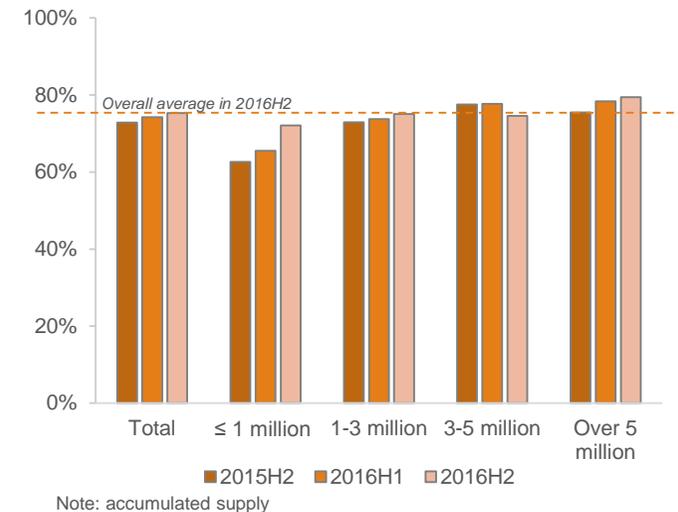
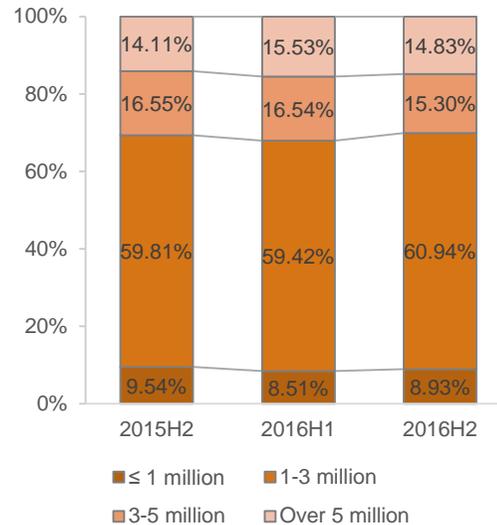
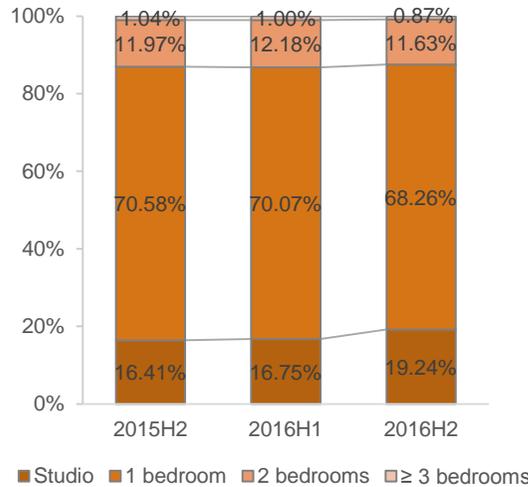


## Residential Market

The highest demand was shown in 1 bedroom condominium and condominium with pricing THB 1–3 million while take-up rate of over THB 5 million units is rising.

- For midtown and suburban areas, there is an increase in supply due to land availability with reasonable price and mass transportation expansion.
- For downtown area, there is a limited supply with the upward trend of price due to limited supply of land for development.
- The number of transfer units may not as high as the number of sold units because of inability to secure loan.
- Developers had shifted their focus to the upper-end level market since this market had high take-up rate and was less affected by strict mortgage loan criteria.

Sold units of condominium by types in 2015H2-2016H2    Sold units of condominium by price ranges in 2015H2-2016H2    The take-up rate of condominium by price ranges in 2015H2-2016H2



# Prime Sukhumvit remains the main location of prime condominiums.

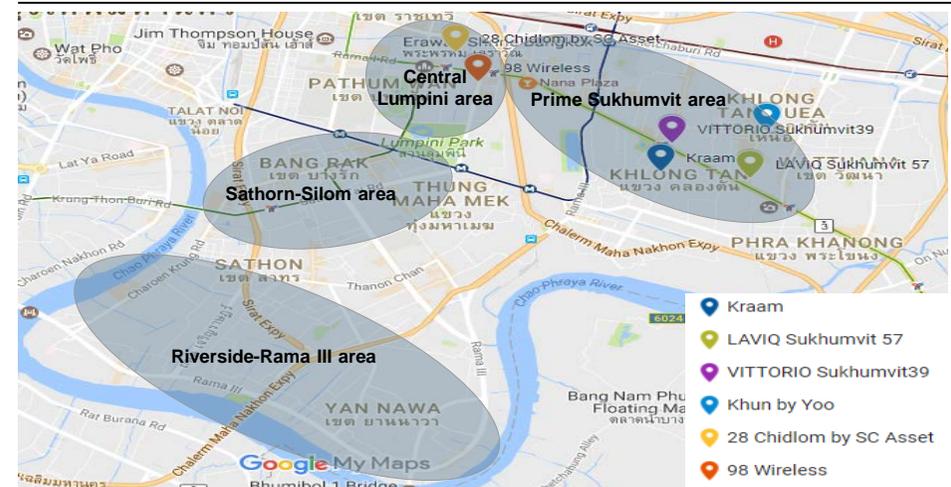
- The areas for prime condominiums are well-developed as a center of business, education, convenient public transport, and shopping malls.
- Prime Sukhumvit area has 4 prime projects with 597 new units launched in 2016 which share the largest portion in supply.
- Central Lumpini area showed the highest growth in average selling price at 9.9% following by Prime Sukhumvit with 8.1% increase, Riverside-Rama III and Sathorn-Silom area which the price rose 3.1% and 2.8%, respectively.

New supply of prime condominium projects in Bangkok in 2016

2016 prime projects*	Location	Average asking price (THB/Sq.m.)	Units
98 Wireless	Central Lumpini (Wireless)	550,000	77
28 Chidlom	Central Lumpini (Chidlom)	350,000	436
Khun by Yoo	Prime Sukhumvit (Thonglor 12)	300,000	148
Vittorio	Prime Sukhumvit (Sukhumvit 39)	280,000	88
KRAAM	Prime Sukhumvit (Sukhumvit 26)	275,000	126
Laviq	Prime Sukhumvit (Sukhumvit 57)	240,000	235

\*Prime condominium is refer to condominium with pricing more than 200,000 THB/Sq.m.

Location map of areas for prime condominiums in Bangkok



## Residential Market – Prime condominium

# Developer had shifted their focus to prime condominium due to limited supply and had demand from both domestic and foreign.

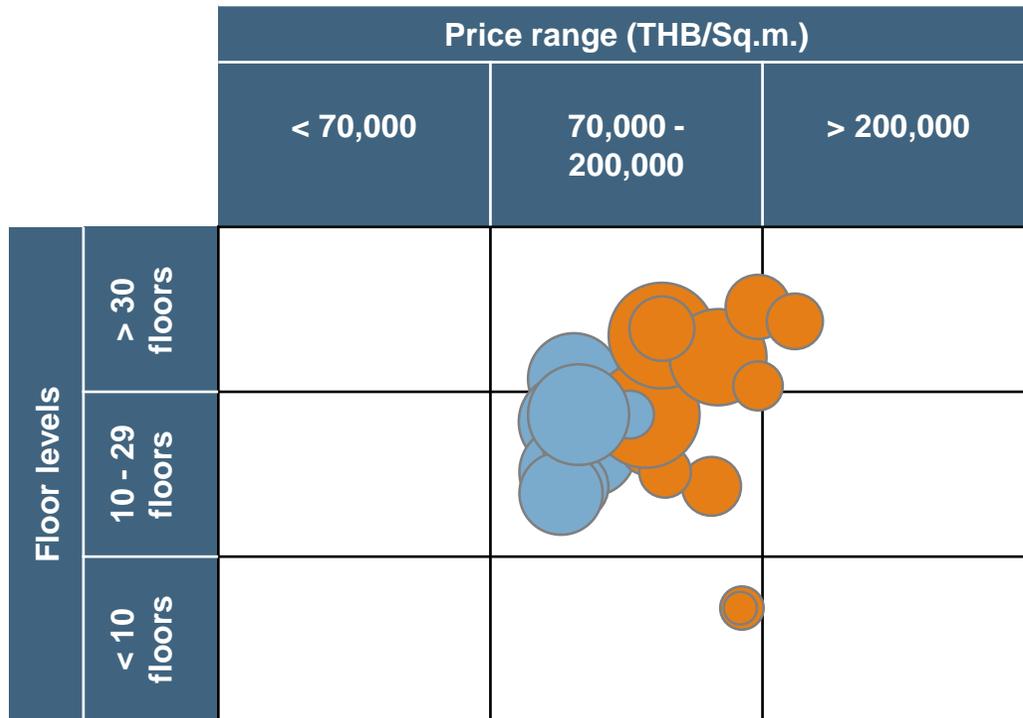
### Prime condominium

<p><b>Supply</b></p>	<ul style="list-style-type: none"> <li>• Luxury condominium segment accounted for less than 5% of the total Bangkok condominium supply.</li> <li>• In 2016, the market showed strong growth in supply by 24.6% increasing especially within the Prime Sukhumvit area.</li> <li>• Developers focused more on prime condominiums since there was purchasing power and land price in downtown area was too high to develop middle level projects.</li> </ul>
<p><b>Demand</b></p>	<ul style="list-style-type: none"> <li>• There was demand with 64.5% take-up rate with decreasing growth rate.</li> <li>• Buyers in this segment did not rely on home loans and had purchasing power.</li> <li>• There were both domestic and foreign demand. Thai buyers accounted for about 85%. The rest was the foreign buyers mostly people from Hong Kong, Singapore and Taiwan who have business in Thailand.</li> <li>• Around 48% bought a unit for self-occupancy, 36% bought to generate long-term rental income and 16% were the short-term speculators.</li> <li>• Buyers are likely to be more selective.</li> </ul>
<p><b>Price</b></p>	<ul style="list-style-type: none"> <li>• Price has been increased 4.7% in average from 2015. The highest record of asking price is THB 720,000 /sqm by 98 Wireless. It is expected that price levels will remain high and may rise due to the land price appreciation.</li> </ul>
<p><b>Opportunity</b></p>	<ul style="list-style-type: none"> <li>• Condominium ownership law for foreigners, 49% of total units can be occupied by foreign person.</li> </ul>
<p><b>Challenge</b></p>	<ul style="list-style-type: none"> <li>• Limited of supply of land for development and high land-acquisition cost.</li> <li>• Anticipate customer's needs and deliver superior customer value.</li> </ul>
<p><b>Key success factors</b></p>	<ul style="list-style-type: none"> <li>• Accessibility factors: convenient transportation both by car and public transport.</li> <li>• Living factors: close to shopping malls, recreation, education, health care and business area.</li> <li>• Mood &amp; livable factors: location attributes, unique ambience, architecture and premium amenities are also represent the exclusive lifestyle and preferences of the target group. Brand affiliation was applied as value creation for projects.</li> <li>• Cost factors: competitive price with high quality.</li> </ul>

## Residential Market – Joint venture projects between Japanese and Thai companies

There is no difference between Thai and joint venture projects in terms of price and building except one project differentiating by applying Japanese unique theme.

Japan-Thailand joint venture projects\* positioning



Size of circle denotes the number of units

Color denotes the location



List of Japanese companies conducting joint venture with Thai companies

Japanese companies	Thai companies	# of joint venture projects
Mitsui Fudosan (Asia) Pte. Ltd.	Ananda Development PLC	12
Mitsubishi Estate Co., Ltd.	AP (Thailand) PLC	8
Nomura Real Estate Development Co., Ltd	Origin Property PLC	3
Hankyu Realty Co., Ltd	Sena Development PLC	2
Shinwa Real Estate Co., Ltd	Woraluk Property PLC	1
Tokyu Corporation	Sansiri PLC	1

\* Include only new launched condominium projects in 2016-2017.

## Thailand

Residential and office in Bangkok and its surrounding areas are stable under economic recovery.

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Macro Fundamentals

2

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Residential Market

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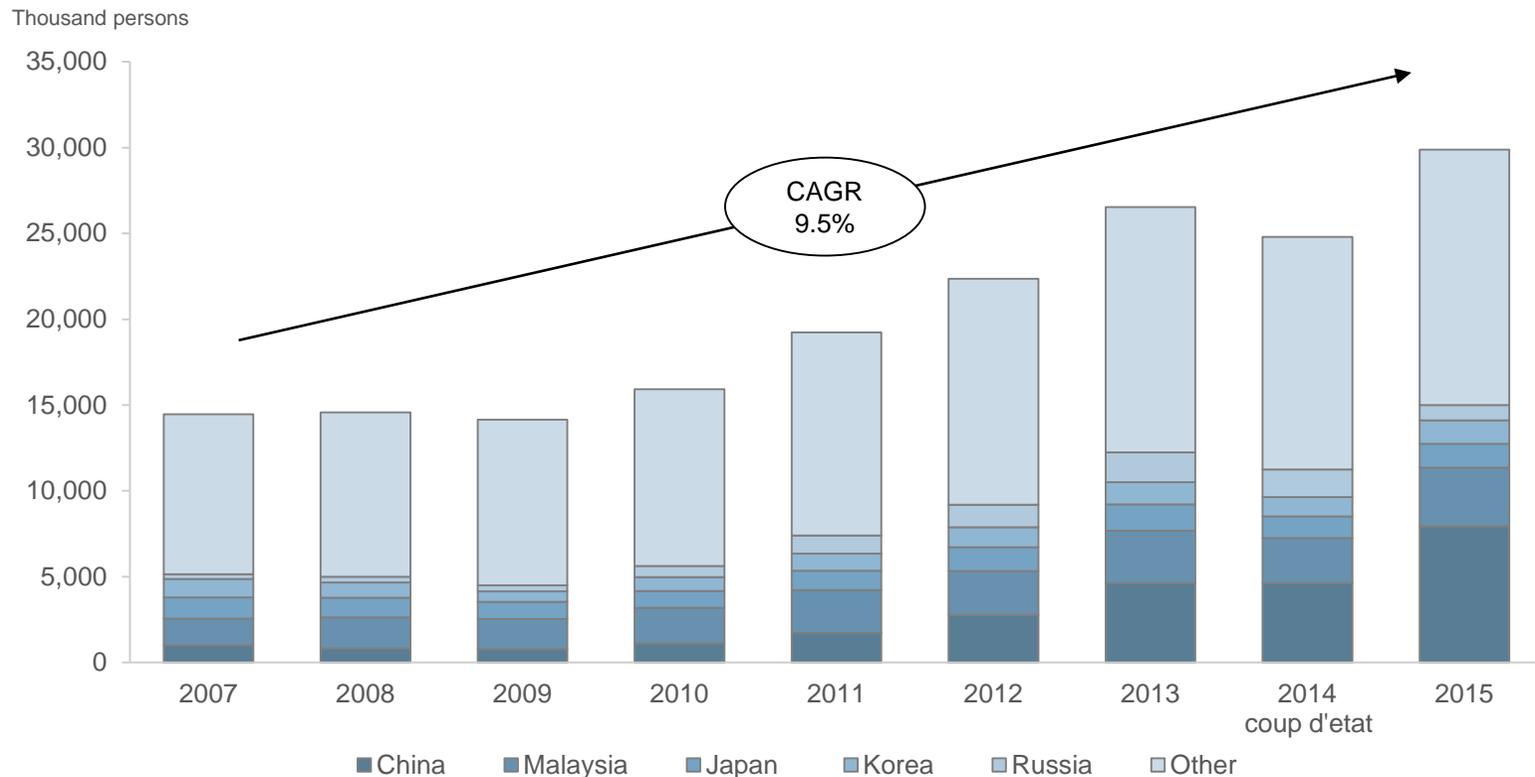
Logistics Property Market

## Hotel market trend

# Number of international tourists has been increasing every year except 2014 which had politic issue and coup d'etat

- In 2015, Chinese tourist is around 26.6% which increased around 4 times in 10 years, following by Malaysian 11.5% and Japanese 4.6%.

Number of international tourists visiting Thailand

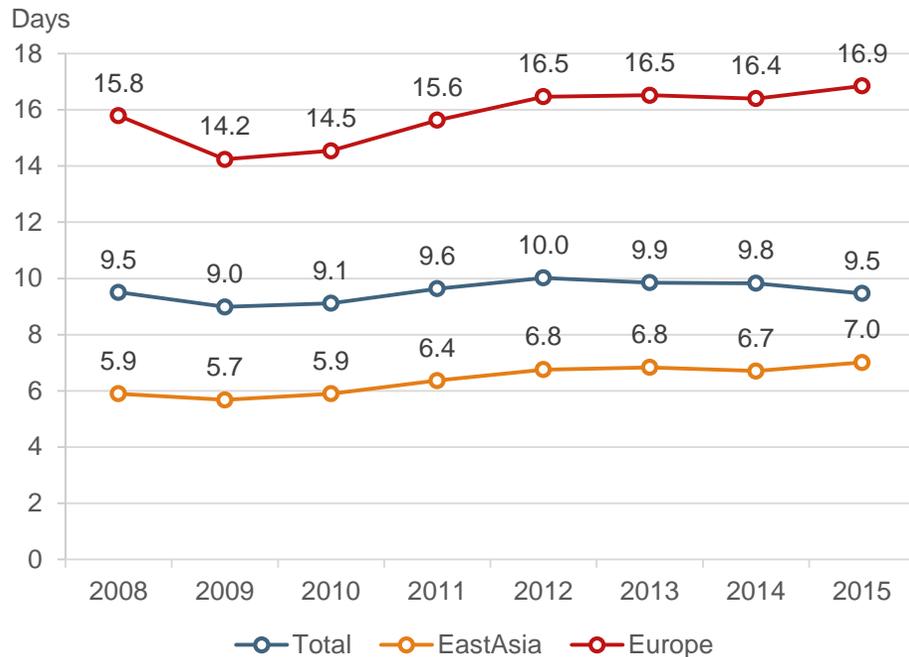


## Hotel market trend

**From 2012, trend of total length of stay has been decreasing due to increasing of tourists from East Asia.**

■ In average, tourists from East Asia stay around 7 days while European tourists stay around 17 days.

Average length of stay of international tourists



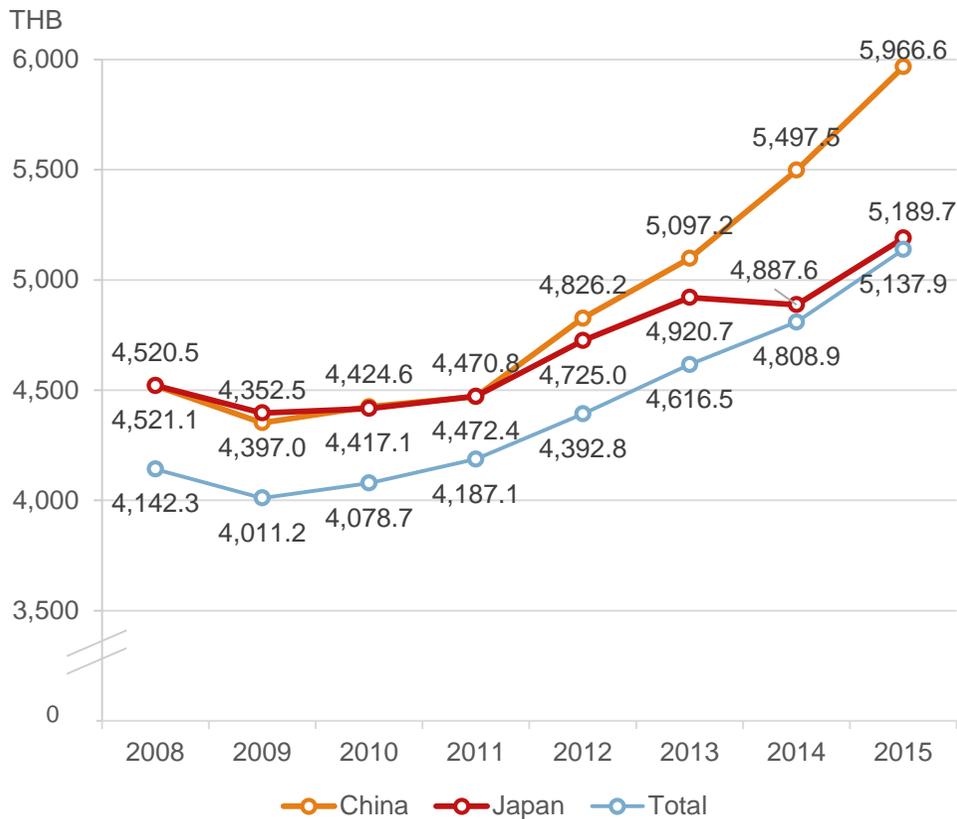
Average length of stay of East Asia tourists in 2015

Country of resident	Average length of stay (days)
China	8.1
Japan	8.0
Korea	7.7
Taiwan	7.6
Hong Kong	6.5
ASEAN	5.6
Others	7.2

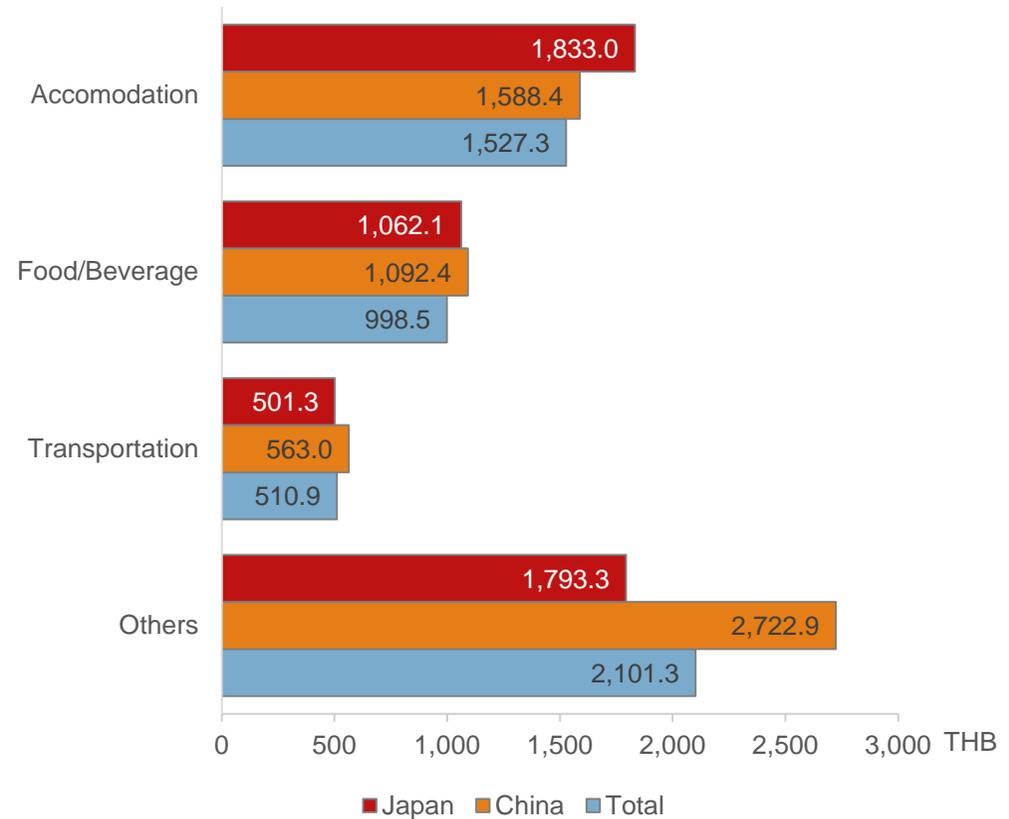
## Hotel market trend

**Japanese tourist spend more on accommodation but Chinese tourist spend money more on others such as souvenir.**

Average expenditure of international tourists per person per day in 2008-2015



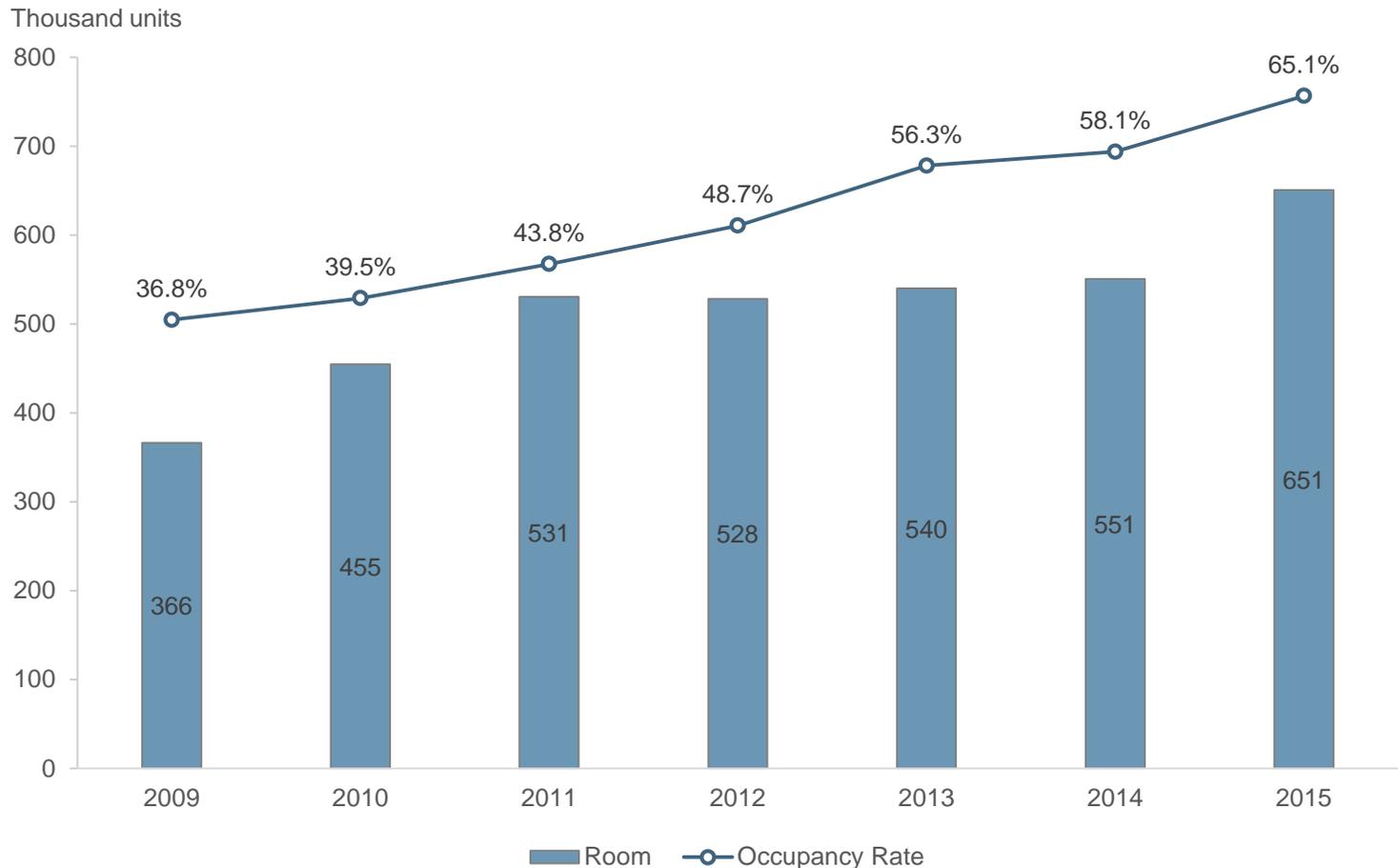
Average expenditure per day of Total, Chinese and Japanese tourists by purpose in 2015



## Hotel market trend

**Number of hotel room is increasing and occupancy rate also increasing with CAGR (2009–2015) around 9.9%. In Bangkok the new supply mainly in Sukhumvit Rd.**

The number of hotel rooms and occupancy rate nationwide in 2009-2015



## Thailand

Residential and office in Bangkok and its surrounding areas are stable under economic recovery.

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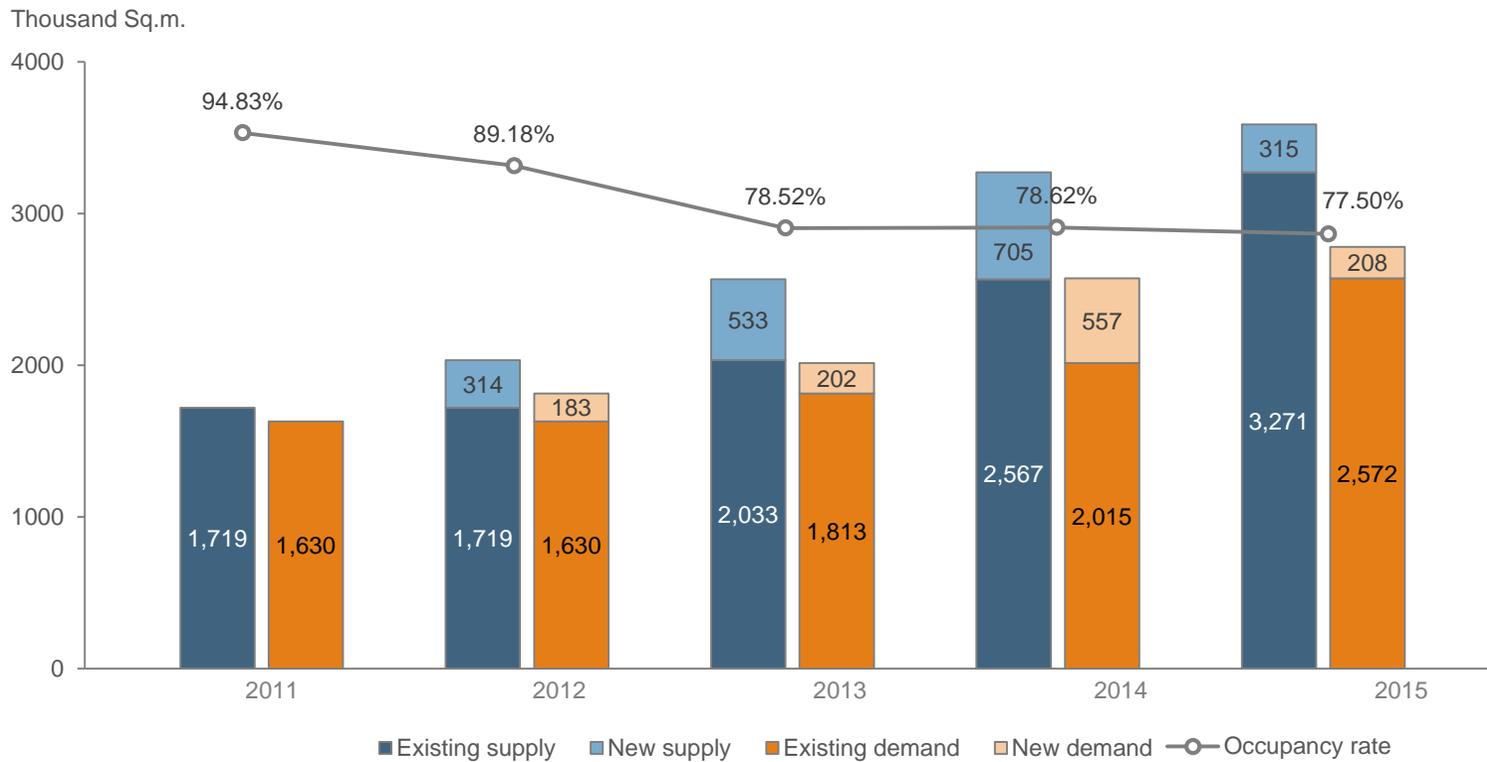
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Logistics Property Market

## Logistics Property Market

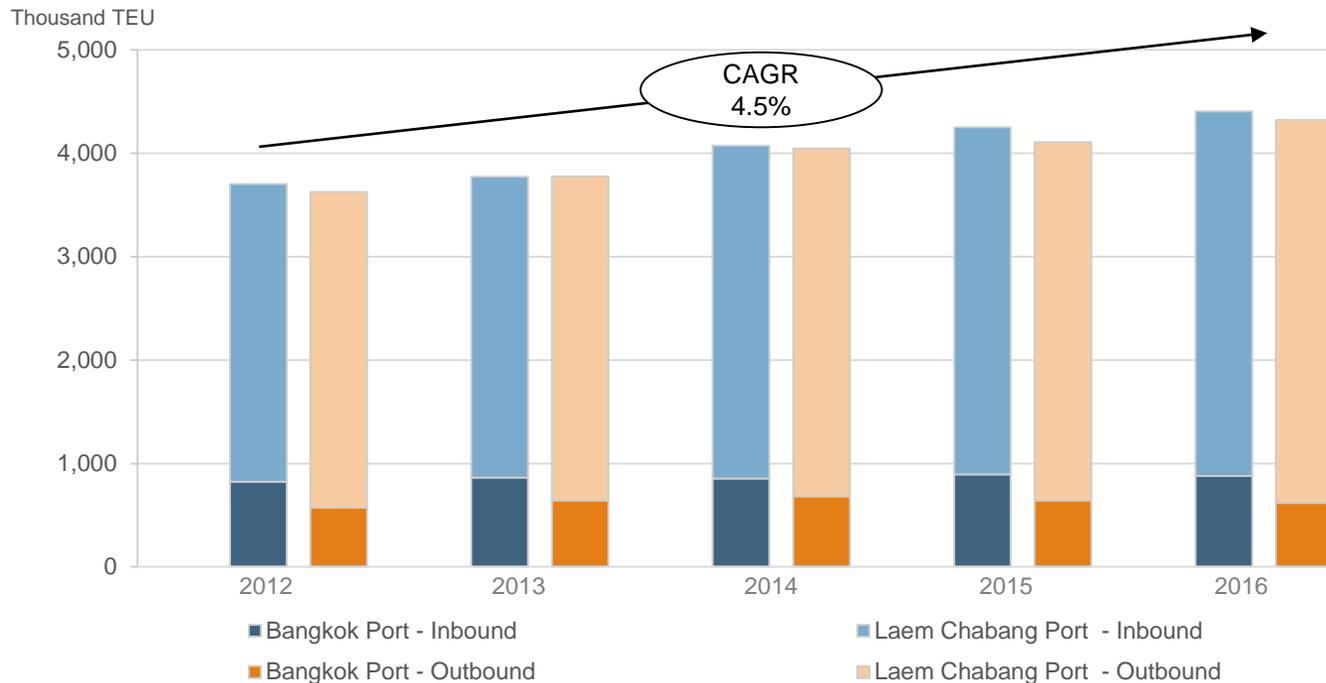
**Market value has increased to be about THB 68 billion in 2015 with CAGR (2011–2015) 20.2% in supply and 14.3% in demand.**

Warehouse supply, demand and occupancy rate in 2011-2015



## The movement at ports is rising indicating an increase of demand for logistics property service.

Number of containers passing through Bangkok and Laem Chabang port in 2012-2016

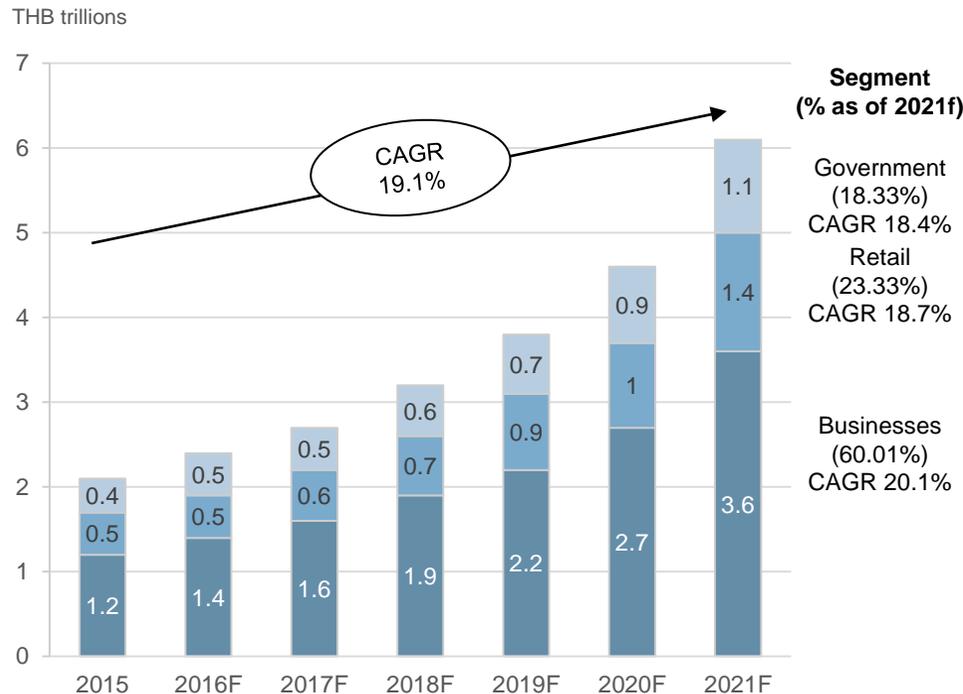


Remark: TEU – Twenty-foot Equivalent Unit Container

## Logistics Property Market

The positive factor for the future demand of warehouse service is growing logistic industry supported by E-commerce market and government's projects.

E-commerce market value in 2015-2021f

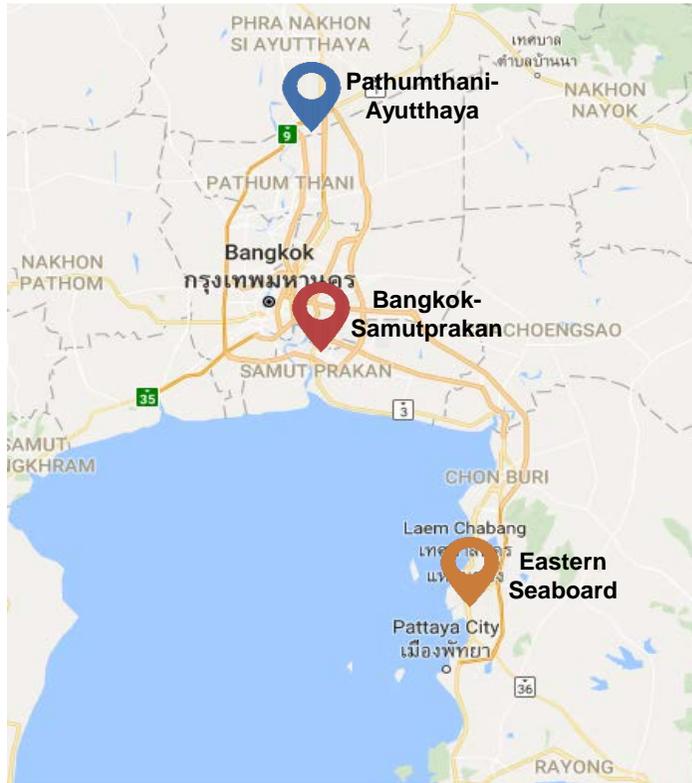


List of infrastructure development projects in 2015-2022

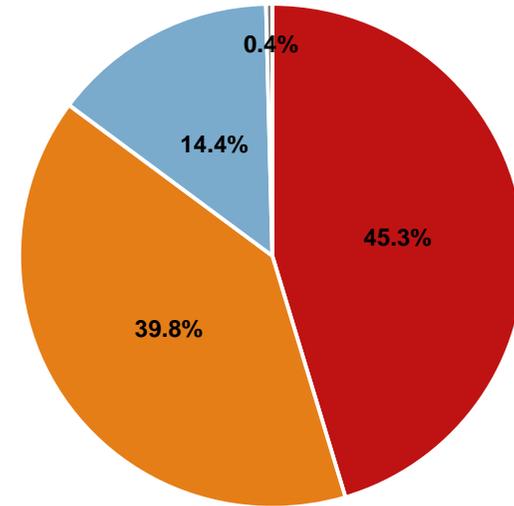
Infrastructure projects		Year
Airport	Development of U Tapao airport to be aviation hub	2017-2021
Port	Development of 6 ports in the Gulf of Thailand and Andaman Sea	2015-2022
Railway	Railway Standard Gauge Thailand-ASEAN-China	2015-2022
	Dual-track railway (Laem Chabang port, Map Ta Phut port)	2017-2021
	High-speed train connecting 3 airports (Suvannabhumi, Don Mueang, U Tapao)	2017-2021
Road	12 Motorway connecting between regions	2015-2022
	Motorway (Bangkok-Chonburi/Pattaya-Map Ta Phut)	2017-2021

Among 3 keys logistics areas, Bangkok–Samutprakan has the highest supply since it is the area of airports and industrial estates and it also locates near Bangkok.

Map of Thailand key logistics locations



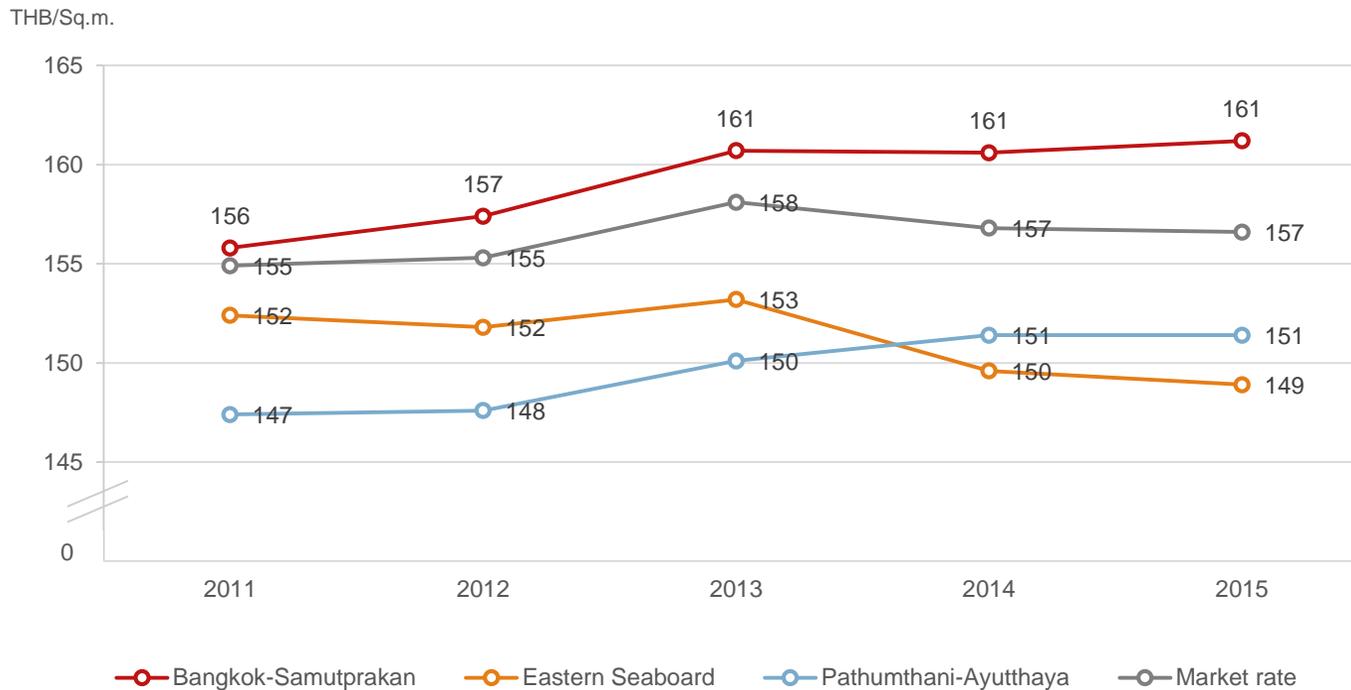
Supply share by key logistics locations



- Bangkok-Samutprakan
- Eastern Seaboard
- Pathumthani-Ayuttaya
- Others

Price competition occurred in Eastern Seaboard area since there was a rise in supply resulting from forecasted demand from Eastern Economic Corridor project.

Monthly warehouse rental rates by key logistics locations in 2011-2015



<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
<b>Korea</b>	Economic stagnation has affected residential and retail, but office is stable.
<b>Taiwan</b>	Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.
<b>Singapore</b>	Oversupply in each market has surfaced due to global economic slowdown.
<b>Thailand</b>	Residential and office in Bangkok and its surrounding areas are stable under economic recovery.
<b>India</b>	Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.
<b>Russia</b>	Office and retail markets in Moscow have struggled due to prolonged stagnation.
<b>USA</b>	Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

## India

Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.

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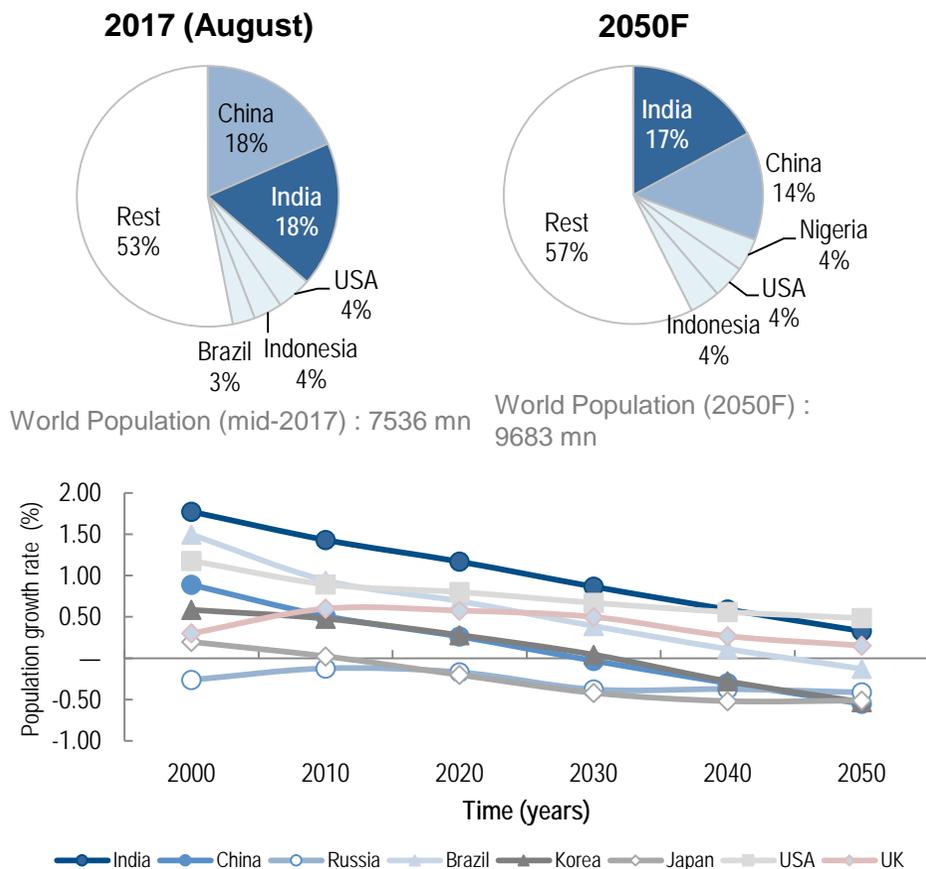
Retail Property Market

6

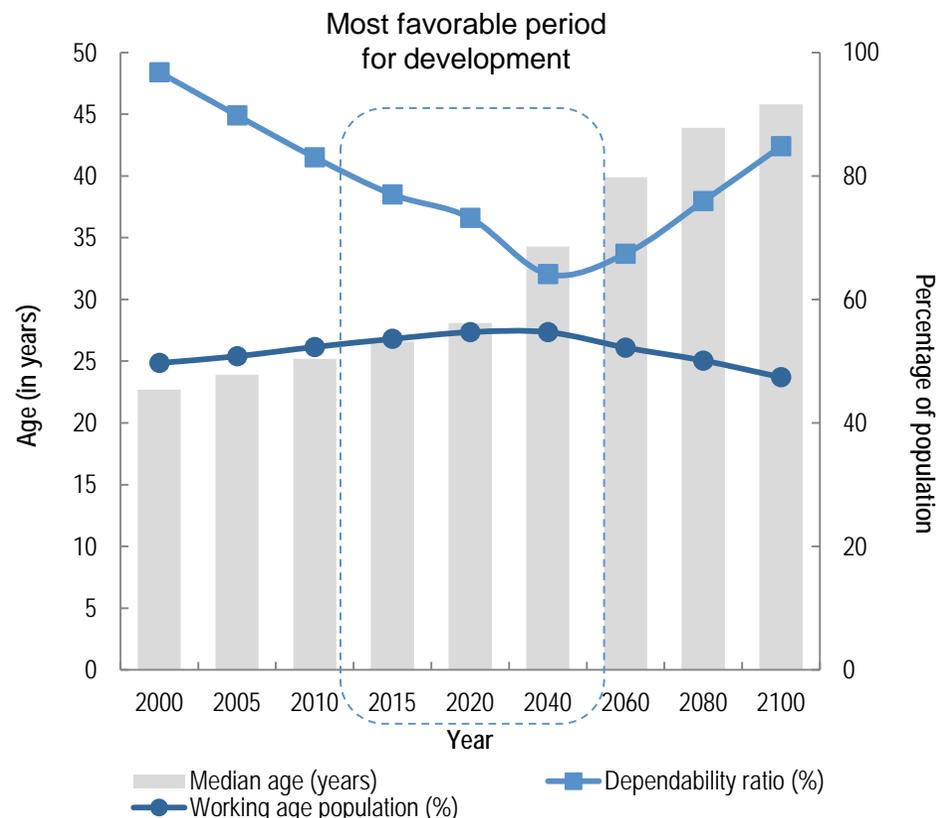
Hotel Market

India is a growing market not only due to rising population, but also owing to the fact that the majority of this population is young and of working age, thus driving consumption.

### India's Position in Population Growth

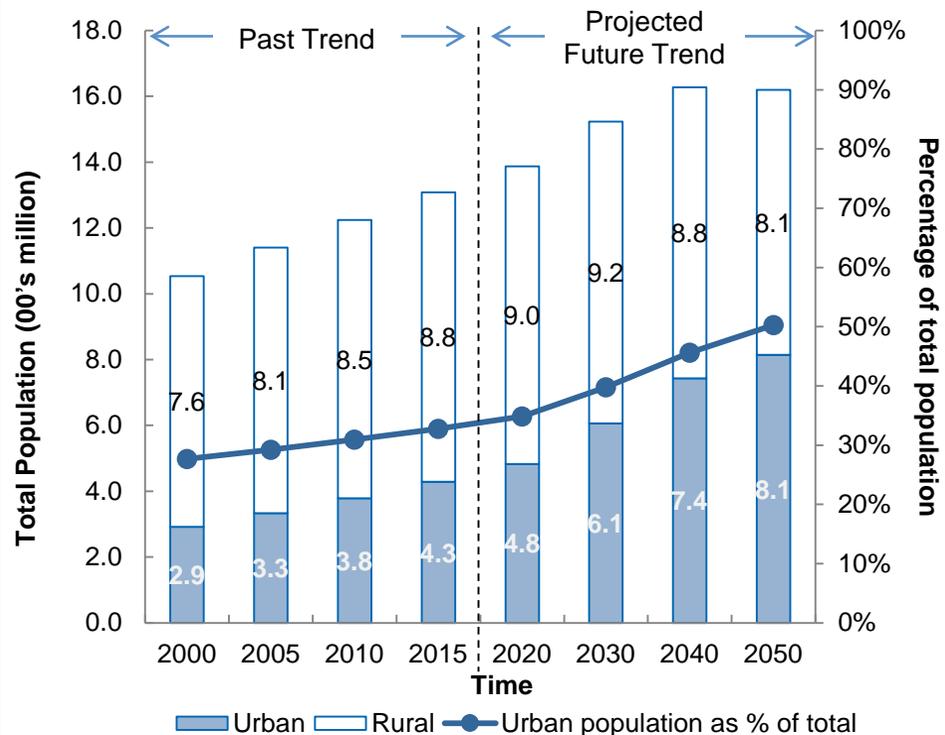


### India's Population Structure by Age



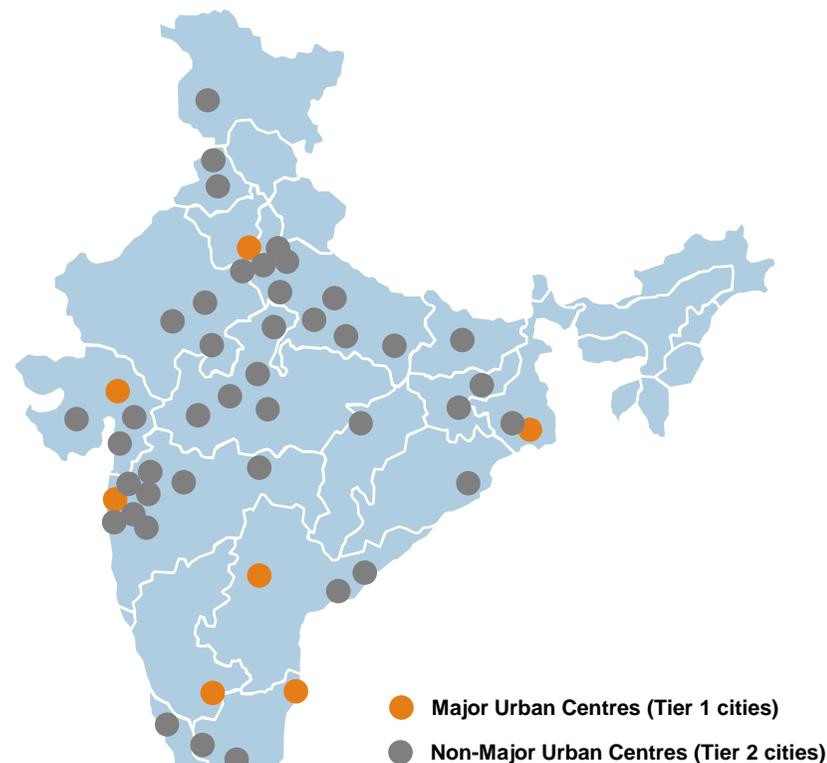
India is witnessing rapid urbanization that has led to the development of several urban centers that are significant drivers of middle class demand in the country. 46 cities have more than 1 million population and growing

### Urbanization Trends



Source: 1. World Urbanization Prospects: The 2014 Revision, UN Population Division;

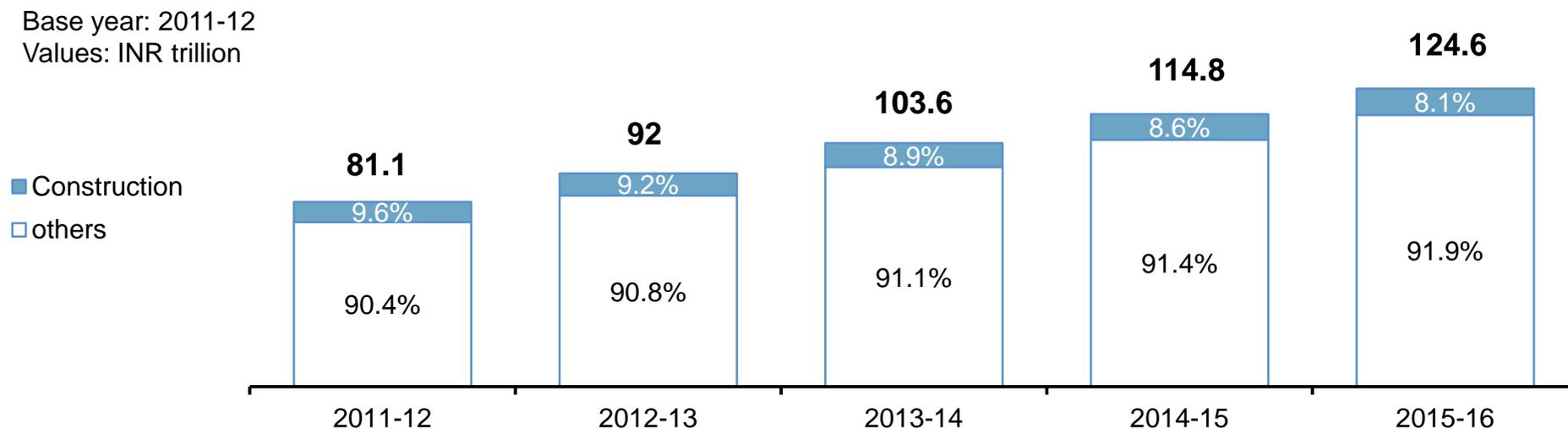
### Major Urban Centers



Source: NRI analysis

Although the Indian economy has grown, the contribution of the construction sector to GDP has consistently remained low and declined in the last few years.

Contribution of Construction Sector to Country's GVA (Gross Value Add) at factor cost (at current prices)

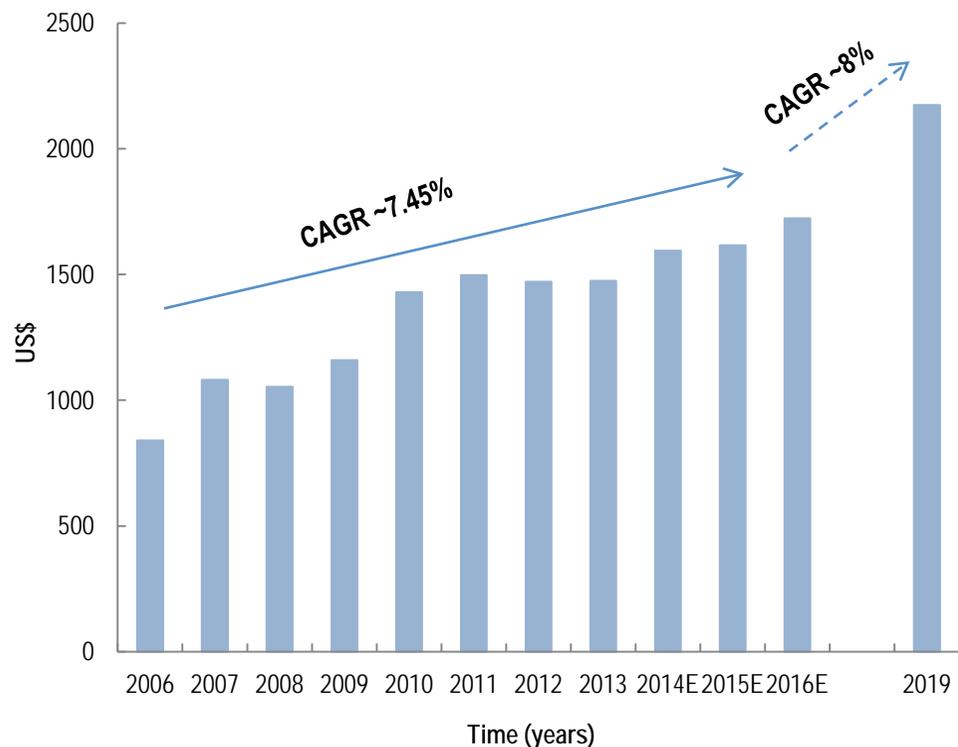


As demographic pressure grows, need to sustain economic growth will drive investments in the construction sector.

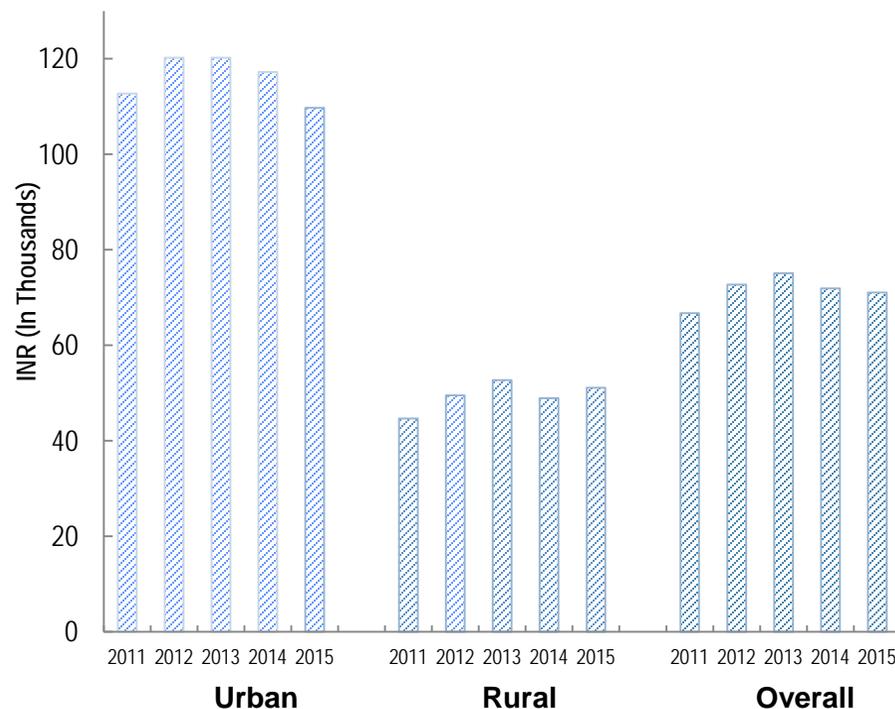
## Macro-Economic Factor – Income levels

India's per capita GDP and household savings are increasing, indicating an improvement in the economic condition of society, and thus an increase in demand for better infrastructure.

*GDP per capita at current prices*



*Average Household Savings per annum*

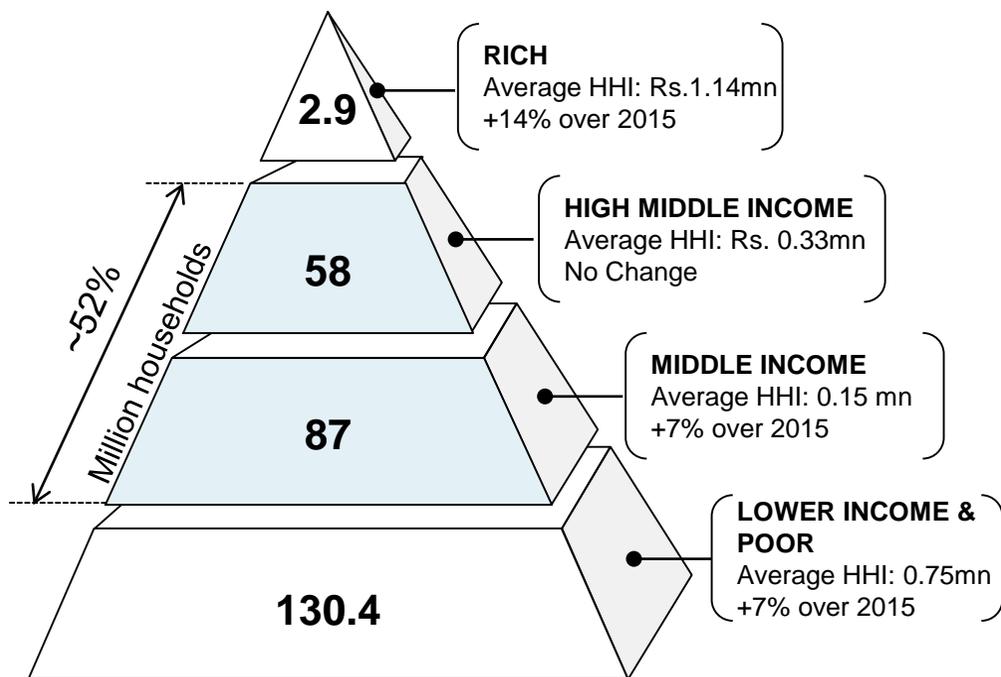


The improving economic condition of the society will increase the demand for better quality infrastructure, especially housing.

## Macro-Economic Factor – Income levels

India's middle class population is almost half of its total population, and among the highest consuming middle class groups in the world.

Structure of Population in March 2015 by Income



Top 10 Countries in Middle Class Consumption

RANK	2009		2020		2030	
	1	U.S	4.4	CHINA	4.5	<b>INDIA</b>
2	JAPAN	1.8	U.S	4.3	CHINA	10.0
3	GERMANY	1.2	<b>INDIA</b>	<b>3.7</b>	U.S	4.0
4	FRANCE	0.9	JAPAN	2.2	INDONESIA	2.5
5	U.K	0.9	GERMANY	1.4	JAPAN	2.3
6	RUSSIA	0.9	RUSSIA	1.2	RUSSIA	1.4
7	CHINA	0.7	FRANCE	1.1	GERMANY	1.3
8	ITALY	0.7	INDONESIA	1.0	MEXICO	1.2
9	MEXICO	0.7	MEXICO	1.0	BRAZIL	1.2
10	BRAZIL	0.6	U.K	1.0	FRANCE	1.1
	<b>WORLD</b>	<b>21</b>	<b>WORLD</b>	<b>35</b>	<b>WORLD</b>	<b>55</b>

India's middle class population would greatly drive demand in the construction sector.

HHI: Household Income per annum

HHI brackets: Rich (above Rs 0.73mn), High middle income (Rs. 0.73-0.20mn), Middle income (Rs. 0.2-0.1mn), Lower Income and Poor (below Rs. 0.1mn)

Source: CMIE Consumer Pyramid Data Retrieved 09<sup>th</sup> Sep 2016

Note: Middle class defined as those living in households with daily per capita income between US\$10-100 at 2005 US\$ PPP terms.

Source: Brookings Institution, OECD Working Paper no-285, 2010

## India

Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.

1 Macro Fundamentals

2 Real Estate Market Overview

3 Office Market

4 Residential Market

5 Retail Property Market

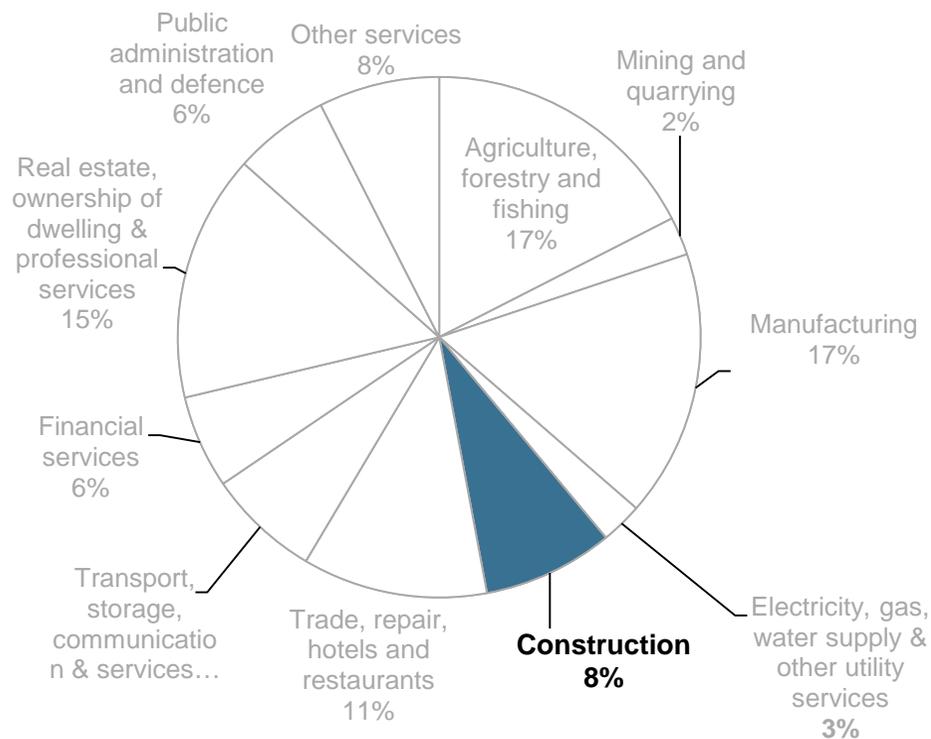
6 Hotel Market

## Real Estate Market Overview- Contribution and Growth

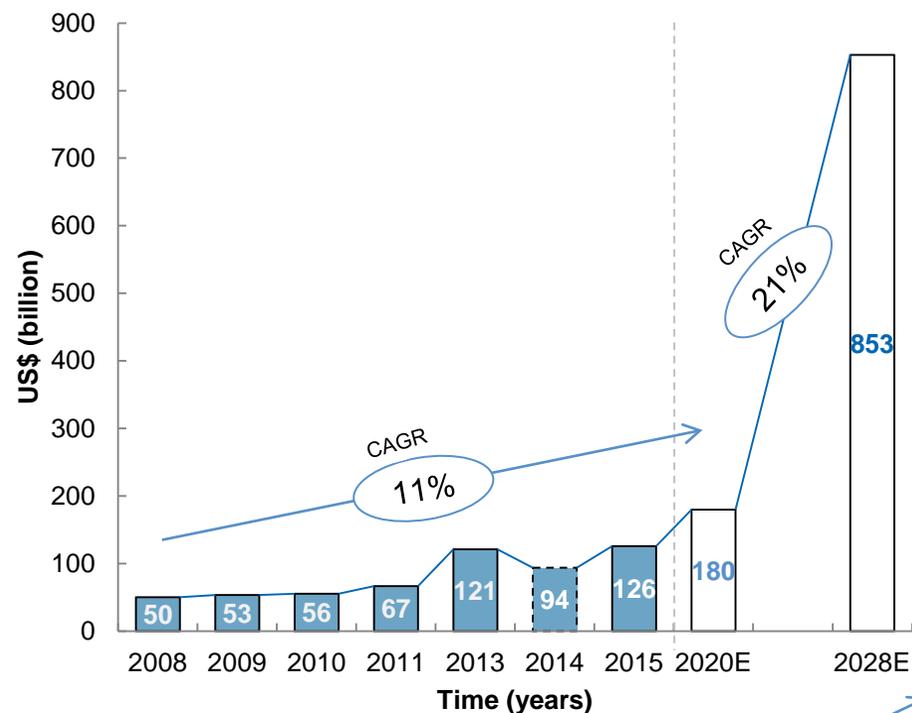
The construction sector contributed 8% to India's GDP in 2014-15. The market has witnessed steady growth in the past, which is likely to continue in the future owing to demographic pressure.

### Sector contribution to Gross Value Added 2015-16

Total GVA value at current prices (Base year: 2011-12) : INR 124.6 trillion



### Real-estate market size and growth-rate



Note: Real-estate market includes ownership of residential, commercial and industrial dwellings and related business services

Source: Ministry of Statistics & Programme Implementation, India (National Accounts Statistics 2017)

Source: IBEF India Jul'17

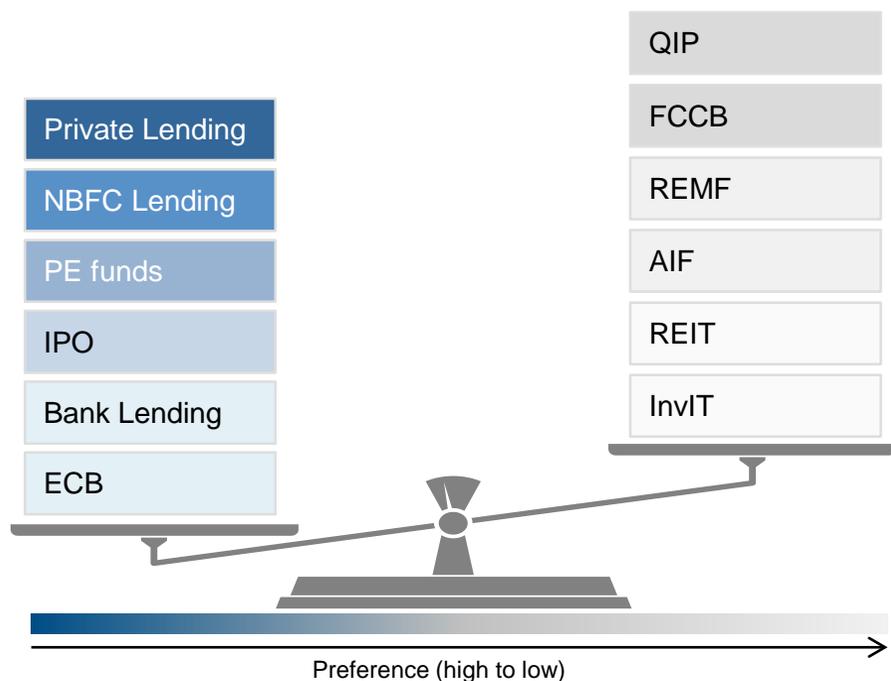
The real estate sector in India is very fragmented, with a large number of regional developers dominating key urban centers across multiple asset classes.

List of Prominent Real Estate Developers (Listed Players only)

Developer Name	Revenue USD mn (FY17)	Focused Market	Asset Class				
			Residential	Retail	Office	Hospitality	Industrial
DLF Ltd.	1269	North India	○	○	○	○	
Prestige Estates Projects Ltd.	737	Bengaluru	○	○	○	○	
Godrej Properties Ltd.	244	West India	○		○		
Indiabulls Real Estate Ltd.	358	Metro Cities	○	○	○		
Unitech Ltd.	267	North India	○	○	○	○	
Sobha Ltd.	344	South India	○	○			
The Phoneix Mills Ltd.	282	West & South	○	○		○	
Omaxe Limited	251	North India	○	○			
Brigade Enterprises Ltd.	312	South India	○	○	○	○	
Oberoi Realty Ltd.	172	West India	○	○	○	○	
HDIL	112	Mumbai	○	○	○		○
Mahindra Lifespace Developers	118	West & South	○				○
Ashiana Housing Ltd.	56	North India	○	○			
Nesco Ltd.	55	Mumbai			○		
Nirlon Ltd.	37	Mumbai			○		○

Private lending, NBFC lending and PE funds continue to be the primary sources of real estate financing. Recently, to improve developer sentiment, REITs and InvITs have been allowed.

Financing options by developers preference



- NBFC: Non-banking Financial Company
- PE: Private Equity
- IPO: Initial Public Offering
- ECB: External Commercial Borrowing
- QIP: Qualified Institutional Placement
- FCCB: Foreign currency bonds
- REMF: Real Estate Mutual Fund
- AIF: Alternative Investment Fund
- REIT : Real Estate Investment Trust
- InvIT: Infrastructure Investment Trust

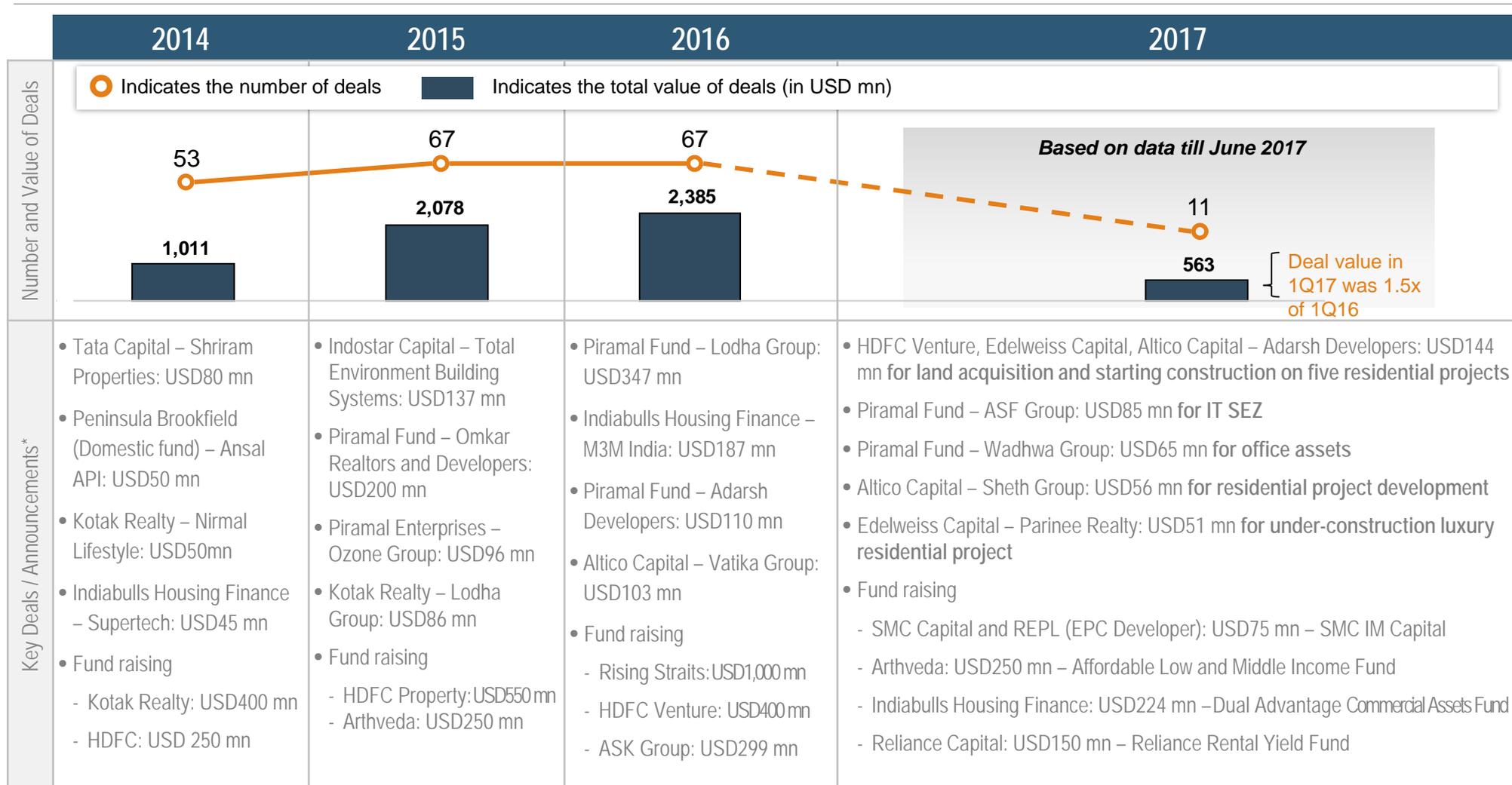
Recently Introduced Financing Options

Option	Brief Description	Merit
<b>AIF</b>	<ul style="list-style-type: none"> <li>Diversified portfolio of funds that invest in real estate, infra and other priority sector projects</li> </ul>	<ul style="list-style-type: none"> <li>Long-term money can be invested in unlisted companies</li> <li>Easy access of money from foreign investors</li> </ul>
<b>REIT</b>	<ul style="list-style-type: none"> <li>Corporate body responsible to publicly trade / manage portfolio of <u>real estate assets</u> on behalf of investors</li> </ul>	<ul style="list-style-type: none"> <li>Will create exit opportunities for developers and financial investors</li> <li>Infuse transparency and liquidity in the market</li> </ul>
<b>InvIT</b>	<ul style="list-style-type: none"> <li>Corporate body responsible to publicly trade / manage portfolio of <u>income generating infrastructure projects</u></li> </ul>	<ul style="list-style-type: none"> <li>Will create liquidity for private infrastructure players</li> <li>Will lower debt exposure and unlock tied up capital of developers</li> </ul>

## REITs are growing in popularity due to ease in regulation and increasing adoption by industry

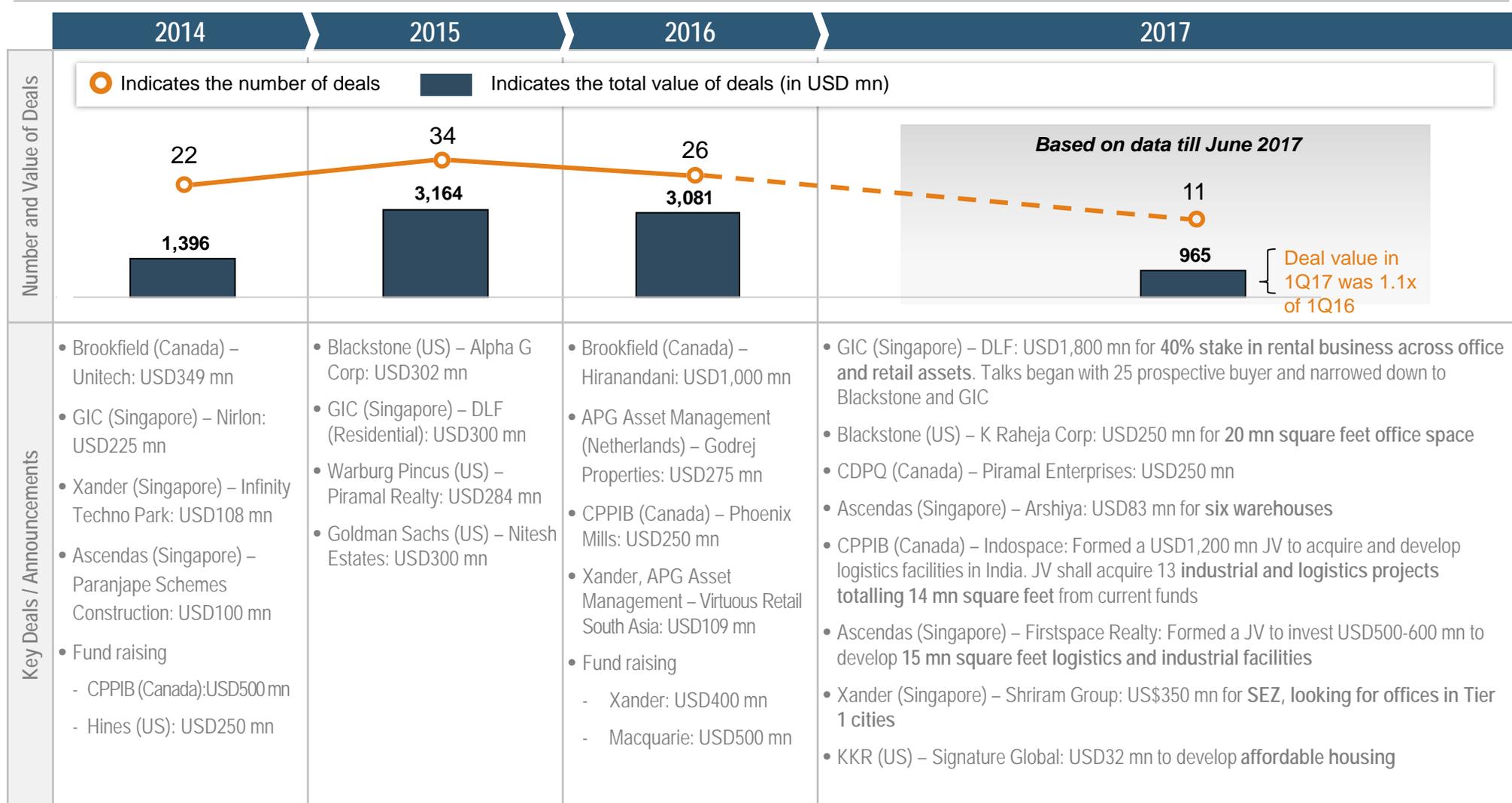
		2014 - 2015		2016		2017	
				1H	2H	1Q	2Q
Regulatory	Regulation Introduced	<ul style="list-style-type: none"> <li>'Real Estate Investment Trusts Regulations, 2014' introduced</li> </ul>		Operating Conditions Relaxed		Investments by Mutual Funds	
	Taxation Relaxed	<ul style="list-style-type: none"> <li>Dividend distribution tax on REITs abolished</li> </ul>		<ul style="list-style-type: none"> <li>Limit on maximum number of sponsors raised to five</li> <li>Limit on investment in under-construction projects raised to 20%</li> <li>Foreign fund managers allowed to relocate to India as fund manager</li> </ul>		<ul style="list-style-type: none"> <li>Mutual funds allowed to invest up to 5% of their NAV in a single REIT, with maximum REIT exposure restricted at 10% of NAV</li> </ul>	
Investors		<ul style="list-style-type: none"> <li>Even though REIT Regulations were introduced in 2014, no real estate developer or investor had shown interest in the initial two years</li> <li>Regulatory points such as dividend distribution tax and certain operating conditions made India REIT listings unattractive for investors</li> </ul>		<ul style="list-style-type: none"> <li>GIC, CPPIB, Temasek, ADIA in talks with IndoSpace for launching ~USD2 bn logistics REIT</li> <li>Blackstone to launch ~USD0.6 bn office REIT with Embassy Group</li> <li>DLF plans to launch office REIT by mid-2018</li> <li>Blackstone to launch second office REIT with Panchshil Realty</li> <li>Blackstone may consider listing its retail assets under REIT in future</li> </ul>		<ul style="list-style-type: none"> <li>RMZ Corp (backed by Qatar Investment Authority) is looking to launch REIT by end-2017</li> <li>K. Raheja Corp is consolidating its office assets and may be considering launching an office REIT</li> </ul>	
						Investments by Insurance Cos.	
						<ul style="list-style-type: none"> <li>Indian Central Bank (RBI) allowed Indian banks to invest in REITs within their umbrella limit of 20% of their Net-Owned Funds</li> <li>This umbrella limit of 20% includes bank's investments in equity-linked mutual funds, venture capital funds and stocks</li> </ul>	
						<ul style="list-style-type: none"> <li>Post approval by RBI, mutual fund houses are altering their schemes to allow investments in to REITs and InvITs</li> <li>- DSP Blackrock MF altered two schemes</li> <li>- Birla Sun Life MF altered 12 schemes</li> <li>- ICICI Prudential MF altered three schemes</li> </ul>	

## Domestic transactions have declined. In 2017, domestic investors have continued to focus on residential projects.



\*PE investments indicate deals by India-dedicated funds

## Foreign Investments have declined too in 2017. Major foreign investors such as GIC, Blackstone, CPPIB and Ascendas have focused on commercial assets, specially logistics



Debt burden of most large real estate players has been increasing due to over-aggressiveness in launching several projects simultaneously. Four of the 10 largest debt holders are at the risk of default

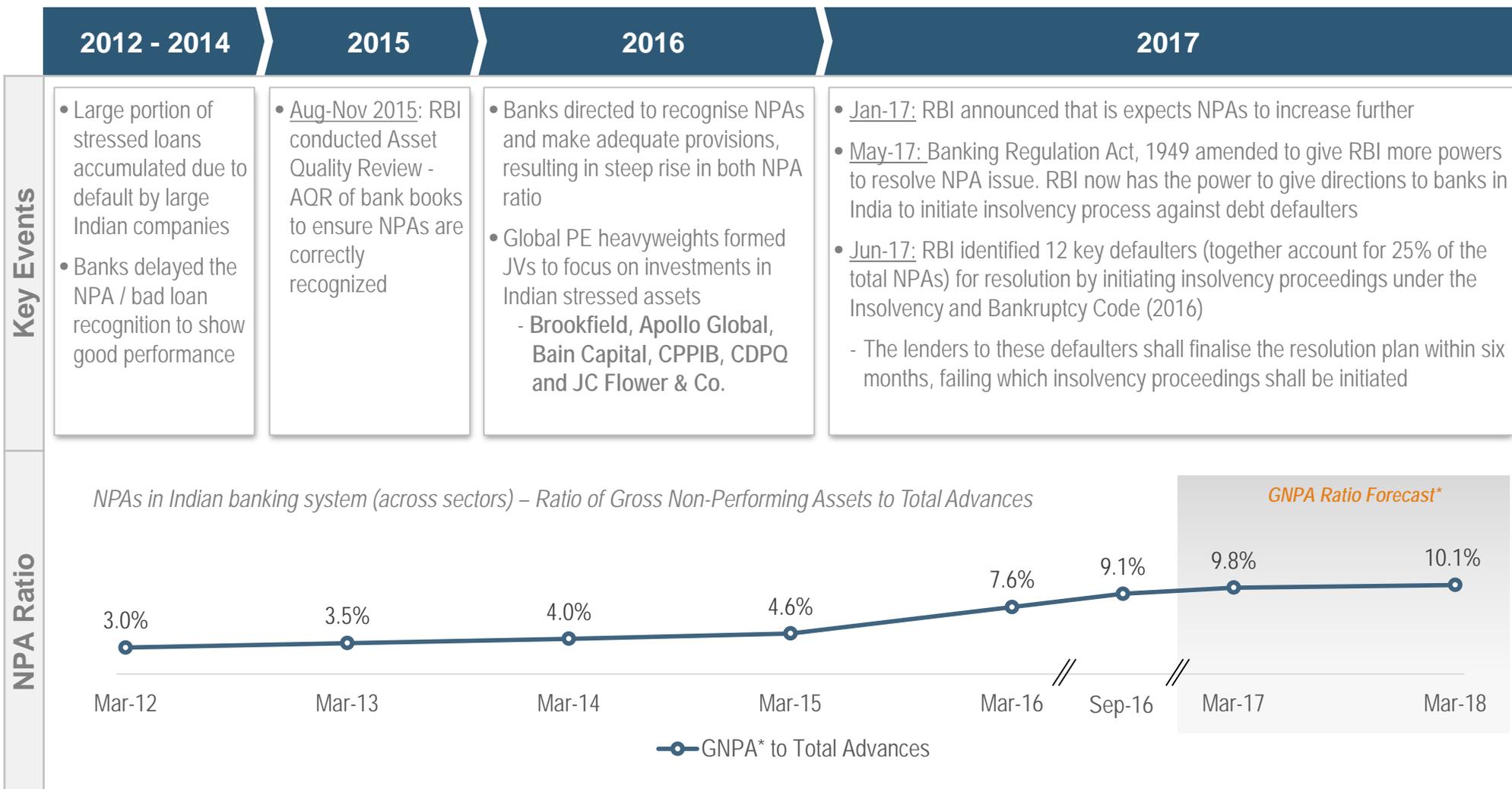
Developer Debt Position

Developer Name	Total Debt Dec16 (USD mn)	% Increase FY16 to Dec16	% Increase FY15 to FY16	Interest Coverage Ratio
 <b>DLF</b>	3,548	-13%	4%	1.08
 <b>Indiabulls</b> REAL ESTATE	1,235	35%	-12%	0.91
 <b>Prestige</b> GROUP	799	-11%	38%	2.67
 <b>Godrej</b>   PROPERTIES	614	24%	-12%	2.51
 <b>THE PHOENIX</b> MILLS LIMITED	518	-12%	8%	1.49
 <b>Parsvnath</b> committed to build a better world	493	0%	0%	0.17
 <b>unitech</b>	472	-52%	1%	0.84
 <b>HDIL</b> Creating Value	408	-9%	-13%	1.63
 <b>SOBHA</b>	333	-2%	3%	2.92
 <b>PURAVANKARA</b>	284	-19%	21%	1.46

Note: \*Total 10 players mentioned above account for 78% of the total debt of listed real estate players in India

Source: S&P Capital IQ, NRI Analysis **223**

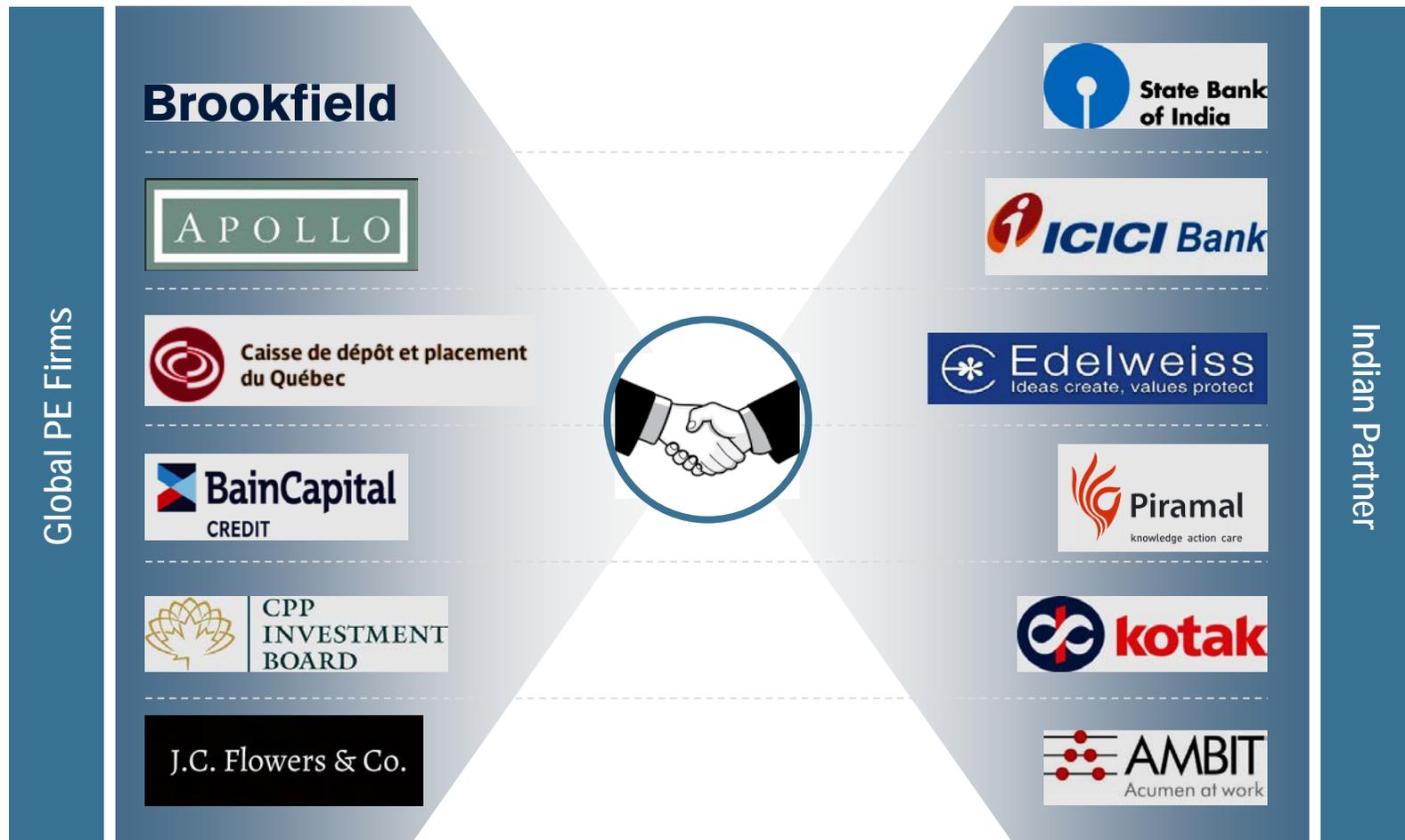
Due to project loan default by developers., non-performing assets of banks are increasing. Government has increased pace to resolve NPA issue. Global PE investors seem keen to capitalize on this opportunistic.



\*Forecast as per RBI's 'Financial Stability Report', December 2016

## Global PE heavyweights are entering into JVs to focus on opportunistic investments in Indian stressed assets

Global PE Firms in Indian Stressed Asset Market



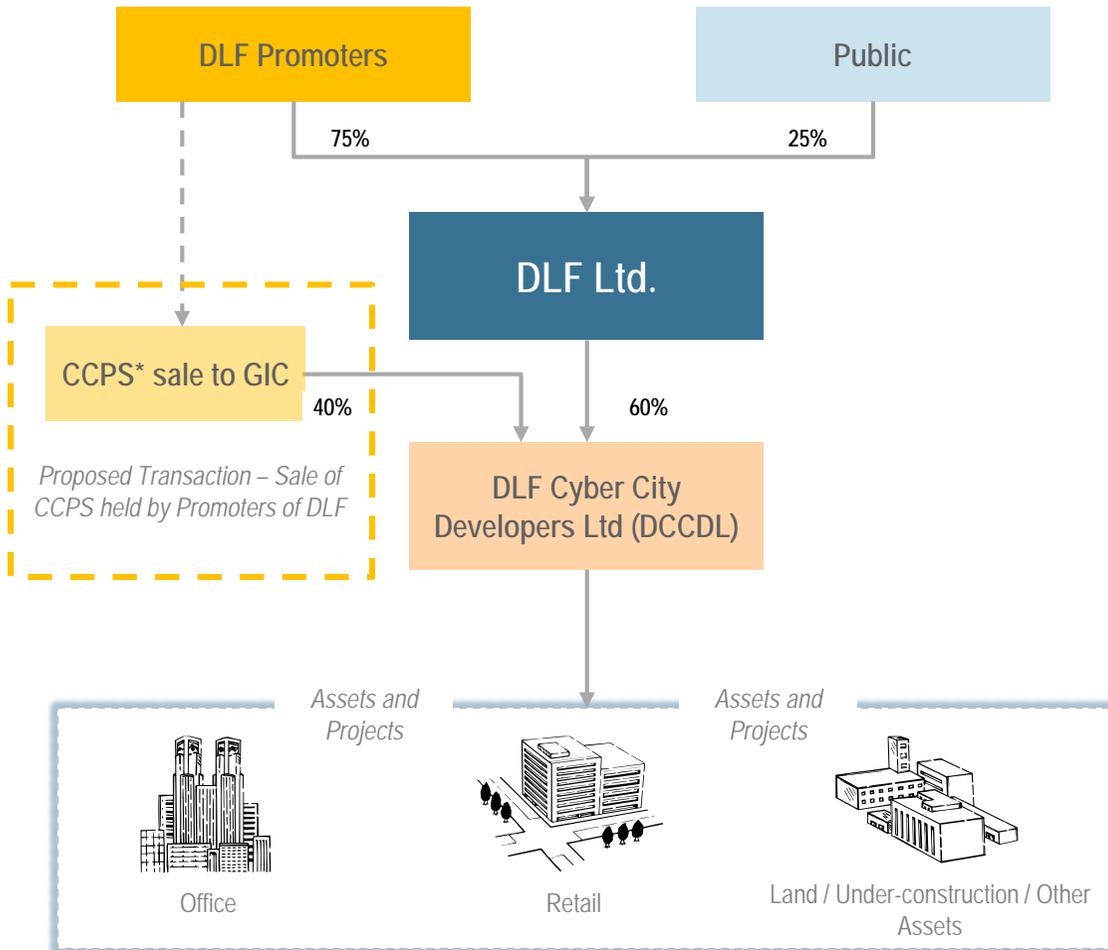
## Major global investors have announced their plans to expand their India portfolio across real estate assets

### Recent Announcements (Illustrative List)

Investor	Target/ Seller / Partner	Estimated Deal Value (US\$ mn)	Asset-Type			
			Office	Residential	Retail	Others
Ascendas	Arshiya Ltd.	83				Six warehouses near Mumbai (Western India)
CPPIB	IndoSpace	1,200				JV to acquire 13 logistics assets (14 mn sqft.)
GIC	DLF - DCCDL	1,800	GIC Singapore announced intention to purchase 40% stake in DLF's rental business, DCCDL (DLF Cyber City Developers Ltd) (Across India)			
KKR	Signature Global	31		Affordable housing projects in Gurgaon (Northern India)		
Xander Group	Adarsh Developers	20		For projects in Bengaluru area (Southern India)		
	-	-	Looking for assets in tier1 cities (Across India)			
	Shriram Group	190				SEZ in Chennai (Southern India)

Recently, GIC Singapore announced intention to buy 40% stake in DLF's rental business arm for estimated US\$1.8 billion

Case Study: DLF - GIC



Snapshot

Deal Summary

- Sale of promoter family's 40% stake in DCCDL
- Deal value estimated to be US\$1.8 billion
- Funds raised to be used for debt reduction
- Expected to be closed by September 2017

DCCDL Business

- Assets: Offices, Retail, Land
- Operational portfolio : 26.8 mn sqft.
- Development pipeline: 6.7 mn sqft.

\*Cumulative Convertible Preference Shares

## Recent policy initiatives such as RE regulation act, GST tax reform and strong steps for resolving bank NPAs are likely to make Indian market attractive for investors

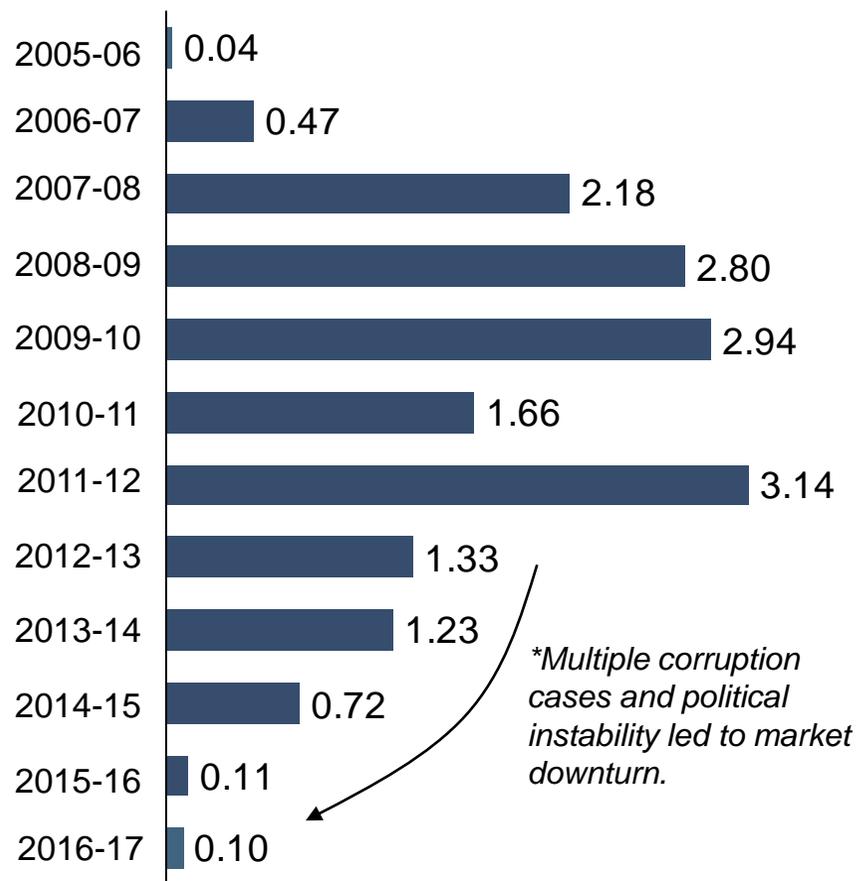
	2014 - 2015	2016		2017	
		1H	2H	1Q	2Q
<b>RE Regulation</b>	<ul style="list-style-type: none"> <li>SEBI introduced 'Real Estate Investment Trusts Regulations, 2014', expected to bring greater accountability, and reduce frauds and project delays</li> </ul>	<ul style="list-style-type: none"> <li>Passed RERA - Real Estate (Regulation and Development) Act 2016</li> </ul>	<ul style="list-style-type: none"> <li>Real estate sector impacted by demonetization due to high volume of cash transactions</li> </ul>	<ul style="list-style-type: none"> <li>Multiple states notified the draft rules and passed the regulations to meet the deadline for compliance – 1 May 2017</li> </ul>	<ul style="list-style-type: none"> <li>RERA becomes effective, however some states are yet to comply</li> <li>Some states have diluted the provisions of the central act, raising concerns</li> </ul>
<b>Anti-Corruption</b>	<ul style="list-style-type: none"> <li>Benami Transactions (Prohibition) Amendment Bill, 2015 introduced to prohibit illegal ownership transactions</li> </ul>		<ul style="list-style-type: none"> <li>Demonetization high value currency notes to remove 'black money'</li> <li>Benami Act 2016 becomes effective</li> </ul>	<ul style="list-style-type: none"> <li>Income Tax department identified 400 transactions for conducting investigations under Benami Act</li> <li>Real estate assets estimated to be worth ~USD80 mn was linked in the transactions</li> </ul>	
<b>Banking System</b>	<ul style="list-style-type: none"> <li>Indian central bank (RBI) conducted asset quality review (AQR) of banks to ensure NPAs are recognized and provisioned</li> </ul>	<ul style="list-style-type: none"> <li>Banks directed to recognise NPAs and make adequate provisions, resulting in steep rise in both GNPA and NNPA ratios</li> </ul>		<ul style="list-style-type: none"> <li>Interest Subsidy Scheme for housing loans for low and middle income groups, to promote affordable housing in India</li> </ul>	<ul style="list-style-type: none"> <li>Government amended Indian banking regulation law to give RBI more powers to resolve NPA issue</li> <li>RBI identified 12 large debt defaulters and instructed banks to push these accounts for insolvency</li> </ul>
<b>Economic</b>	<ul style="list-style-type: none"> <li>Government relaxed rules for Foreign Direct Investment (FDI) in real estate</li> <li>Removed restrictive conditions of minimum area and capitalization amount</li> </ul>	<ul style="list-style-type: none"> <li>Draft law for indirect tax reform - Goods and Service Tax (GST) released in Public domain in June 2016</li> <li>Constitutional amendment bill passed to facilitate implementation of GST</li> </ul>			<ul style="list-style-type: none"> <li>Goods and Service Tax (GST) to become effective from 1 July, potentially simplifying the Indian indirect tax structure</li> </ul>

**FDI in the construction development sector has been on a decline over the past few years; however, recent changes in FDI guidelines will improve overall investments in the sector.**

*Summary of FDI policy in real estate sector*

Topic	Brief Description
<b>Investment Limit</b>	<ul style="list-style-type: none"> <li>• 100% equity allowed</li> <li>• Automatic authorization route, no prior government approval required</li> </ul>
<b>Key Restrictions</b>	<ul style="list-style-type: none"> <li>• Construction of farm houses, trading in transferable development rights (TDRs) and dealing in land or immovable property</li> <li>• Lock-in period of 3 years</li> </ul>
<b>Relaxations</b>	<ul style="list-style-type: none"> <li>• No lock-in period in case of hotels &amp; resorts, hospitals, SEZs, educational institutions and old age homes</li> <li>• Transfer from one non-resident to another non-resident will not be subject to 3 year lock-in period</li> <li>• FDI permitted in completed projects for operations and management of townships, malls / shopping complexes and business centers</li> </ul>
<b>Key Implications</b>	<ul style="list-style-type: none"> <li>• Will help revive projects that could not receive capital earlier</li> <li>• Foreign investors will be able to speed up its investment process</li> <li>• Encouraging environment for foreign developers.</li> </ul>

*FDI in Real-estate sector (USD bn)*



**Real Estate bill 2016 is a major regulation recently passed by Indian Govt. This bill is expected to bring greater accountability, and reduce fraud and project delays in this sector.**

### Background

#### Boom in residential market driving new entrants

- Rising population and income has led to an excessive demand for housing in India for the last two decades.
- As a result, several firms jumped into the housing development business to capture a share of this booming market.

#### Race to capture this demand impacted quality

- In a race to capture demand, developers started launching several projects simultaneously, by investing consumers' money into buying new land sites.
- Gradually, developers' intensity started affecting their cash flows and not just numbers but project sizes became larger.

#### Lead to consumer dissatisfaction

- This resulted in poor quality construction, severe delay in projects completion, etc., leading to consumers' increasing dissatisfaction, legal disputes etc.
- Hence, the Real Estate (Regulation and Development) Bill, 2016 was introduced to re-instate transparency and discipline in the real estate sector and passed in March 2016.

### Key Provisions of Bill

#### Scope

- Both commercial and residential assets
- Developers, brokers as well as agents
- Under-construction projects also covered

#### Institutional Framework

- All states to notify guidelines and set up regulatory boards

#### Registration

- All covered projects need to be registered by the developer within three months of setup
- Online registration facility available

#### Penalties

- In case of violations
  - Project registrations can be cancelled
  - Developer's promoter(s) can be imprisoned

#### Fund Utilization

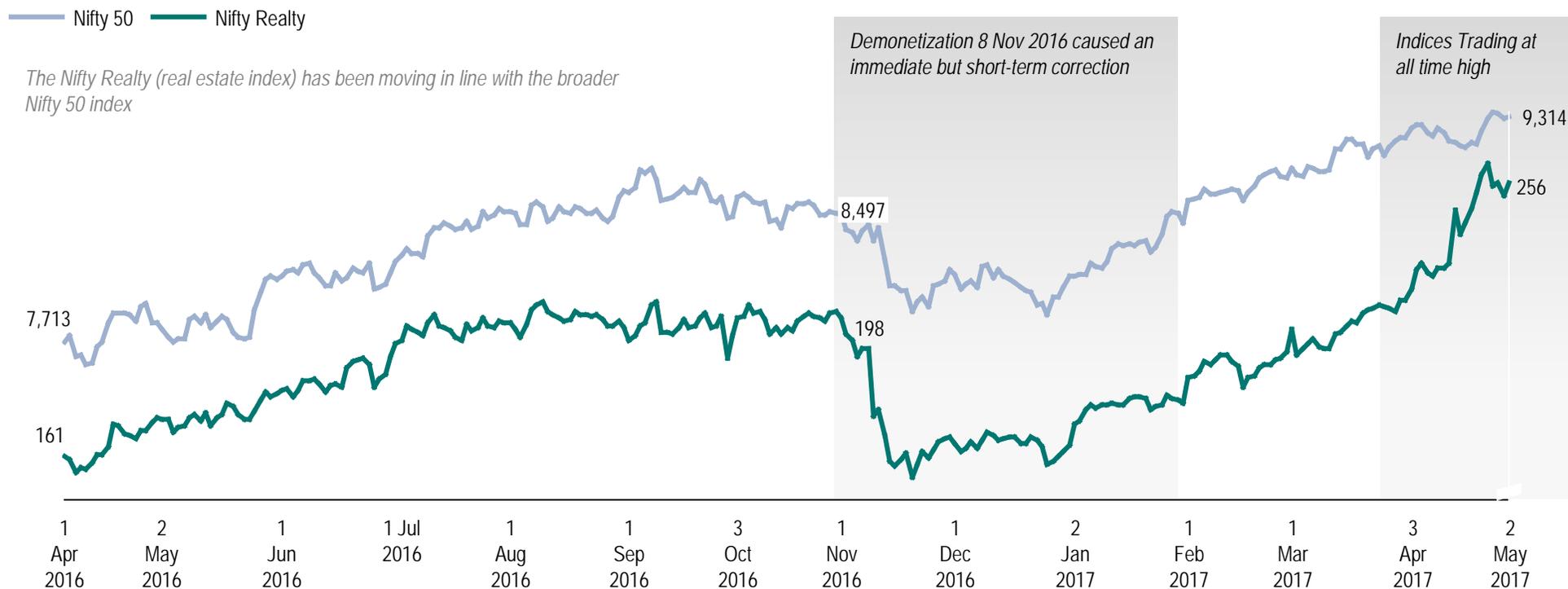
- 70% of the money collected from the buyers to be maintained in an escrow account and to be mandatorily used for the said project

#### Interest Payments

- In case of delay in providing possession developer shall pay same interest rate to buyer as the buyer would pay to developer in case of delay in payment

## Demonetization caused a short-term stock market correction, however, true impact on the industry may become visible only by end of 2017

Performance of Real-Estate Index



True impact of demonetization may become clear by the end of 2017 with disclosure of performance by developers

## India

Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.

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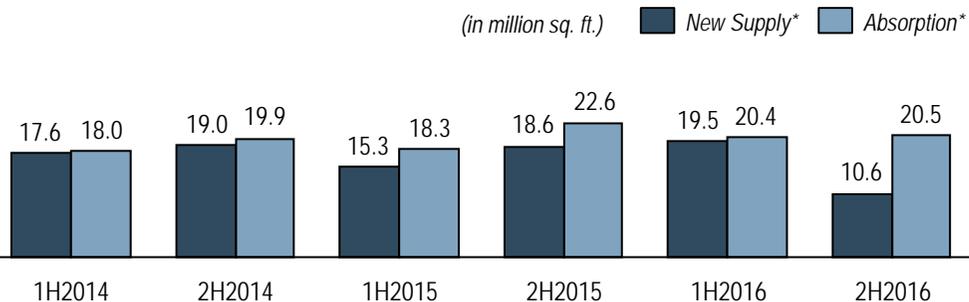
Hotel Market

Office space demand in 2017 is expected to remain similar to 2016, however developers are making new launches in anticipation of demand growth post 2017.

Supply and Absorption

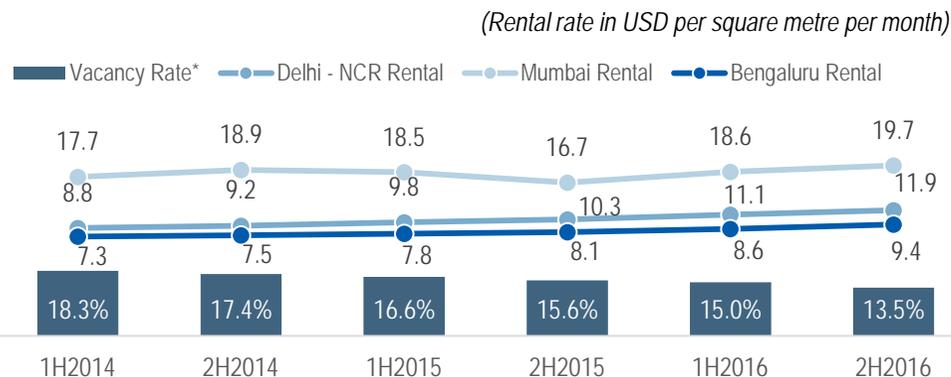


Over the past 3 years, developer's cautious approach and improved economic sentiments have kept demand for office space more than the new supply...



Vacancy and Rental Rate

... this demand surplus has led to positive movement in vacancy rates and rental rates across key office space markets in India



**New Supply:**

- Estimated to be ~30% more than in 2016 with Bengaluru and Hyderabad being the biggest contributors

**Absorption:**

- Estimated to witness modest ~2% increase with Bengaluru and Delhi-NCR being the key markets

**Corporate Announcements:**

- Supertech: Plans to invest ~USD115 mn to develop 2.5 mn square feet of retail and commercial space in Delhi-NCR region
- Lodha Group: Set-up a business vertical to focus on development of commercial assets (office, retail and logistics) with a target of USD1 billion AUM by 2021
- "Demand for office space is expected to remain constant in 2017 ... The expected take up from IT/ITeS companies may see reduced proportion..." - Anshul Jain, Country Head, Cushman & Wakefield

**Vacancy Rates:**

- Expected to improve across key cities, with the exception of Delhi-NCR and Kolkata

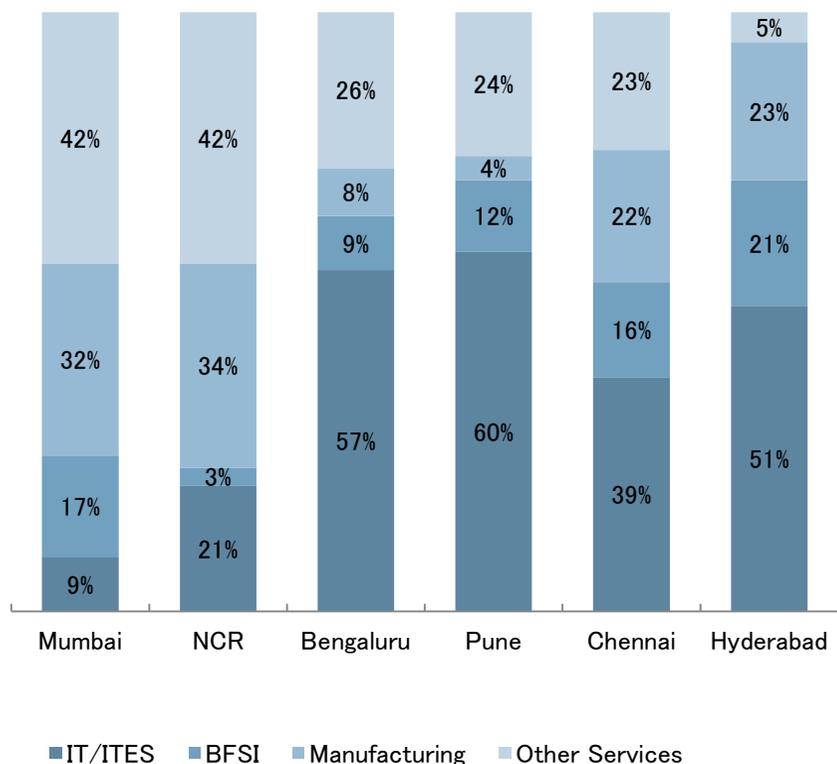
**Rental Rates:**

- Expected to improve across all key cities with Hyderabad, Delhi-NCR and Kolkata outperforming rental growth of 2016

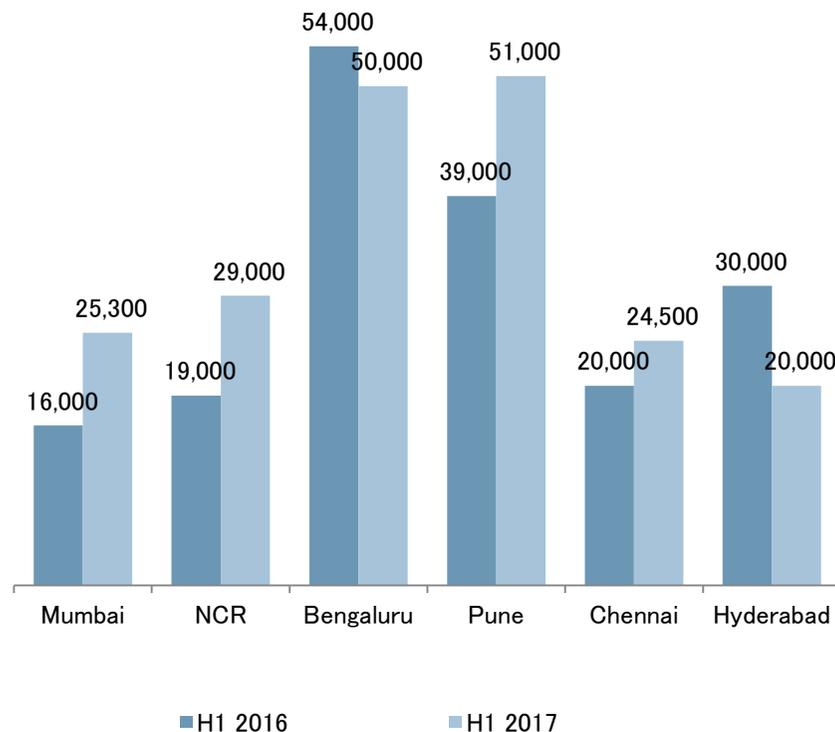
\*Represents data for six cities: Delhi – NCR, Mumbai, Bengaluru, Pune, Chennai and Hyderabad

The IT/ITES sector has taken a large chunk of space in Bengaluru, Pune, and Hyderabad in H1 2017. Also, deal size across cities has increased from H1 2016 to H1 2017 except for Bengaluru and Hyderabad

Sector-wise Transactions Split (H1 2017)



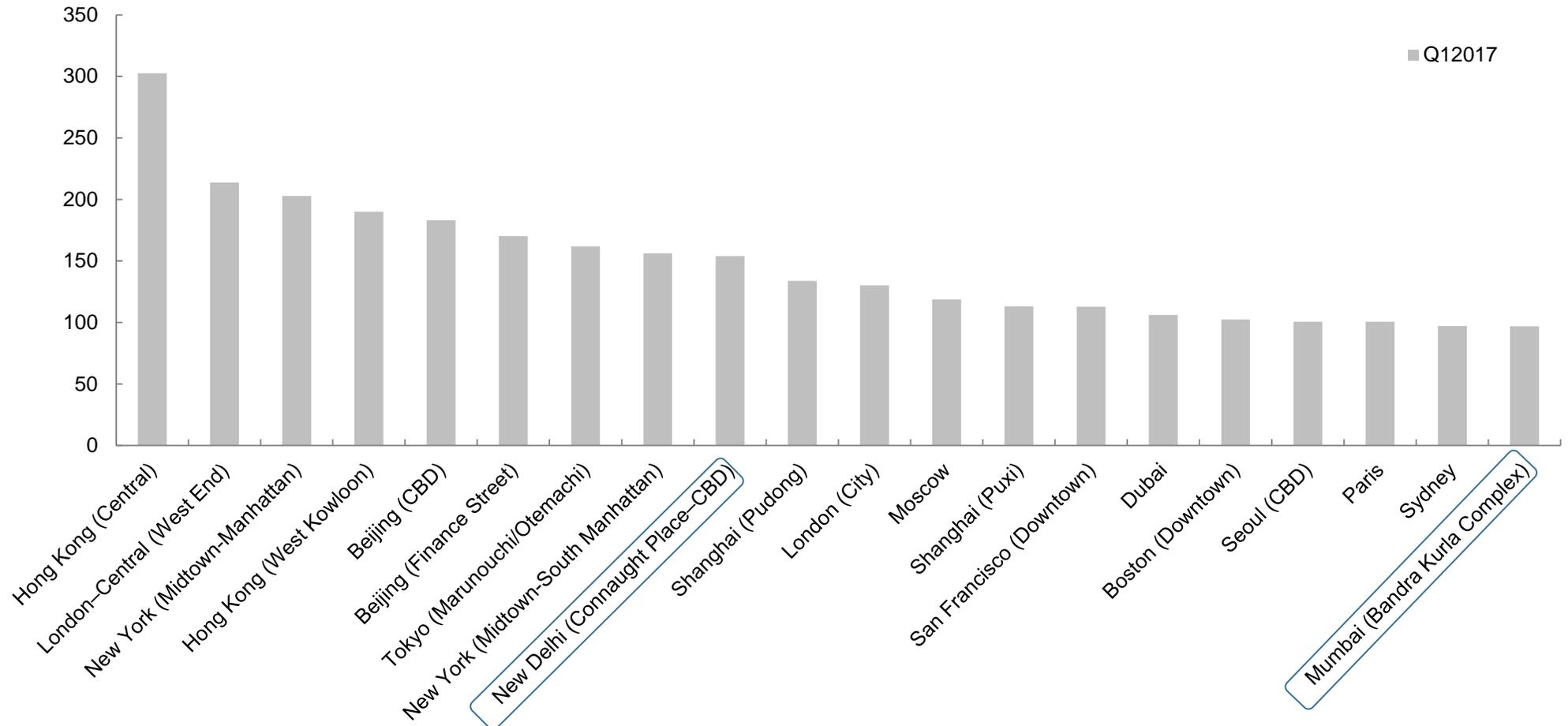
Deal Size Analysis (Sq ft.)



Office Space – Prime office space occupancy costs

**New Delhi (Connaught Place–CBD) and Mumbai (Bandra Kurla Complex) are two prime areas that are featured in the Global 50 Most Expensive Prime Office Occupancy Cost list.**

Prime office space occupancy costs in US\$ per sq. ft. per annum



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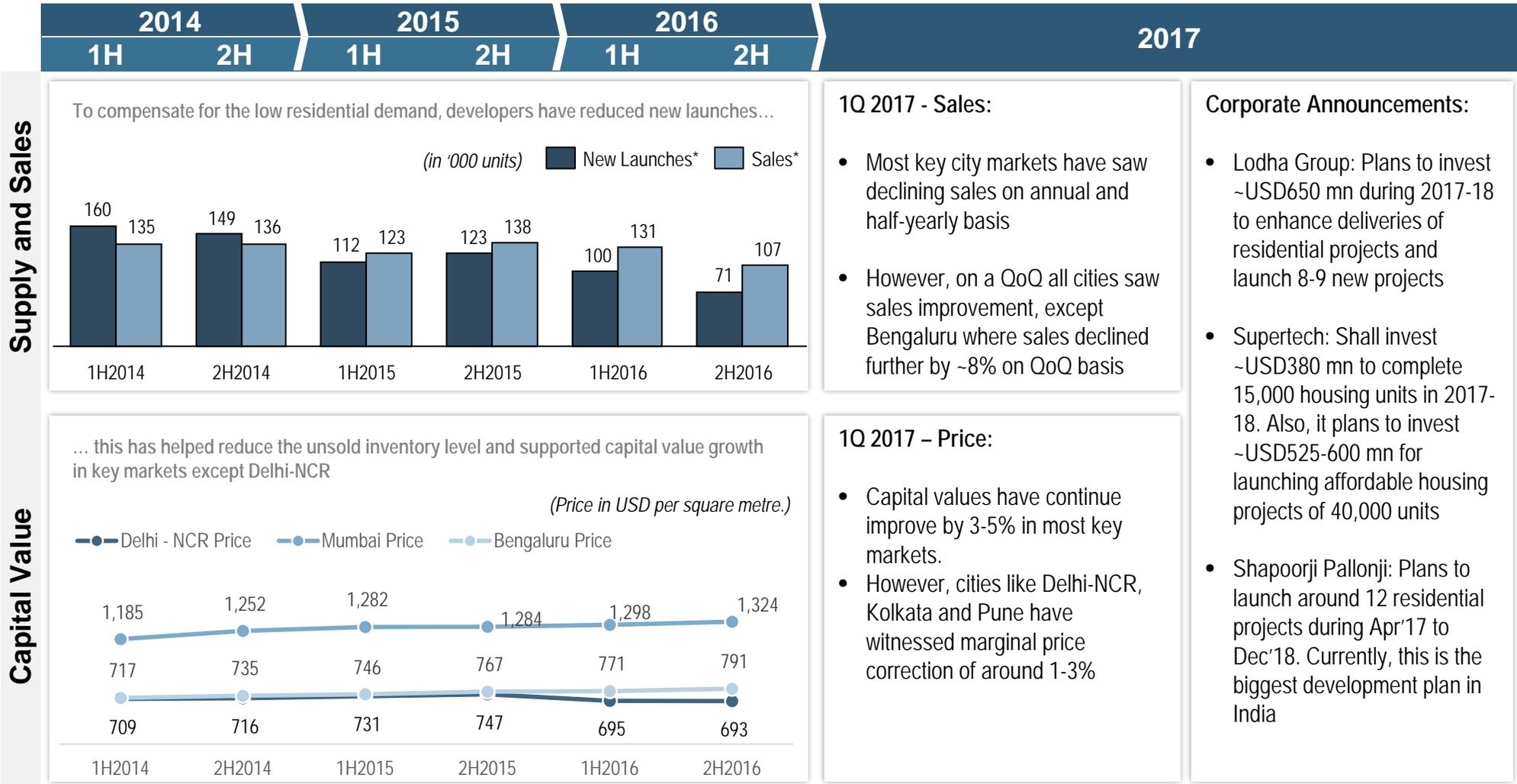
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Hotel Market

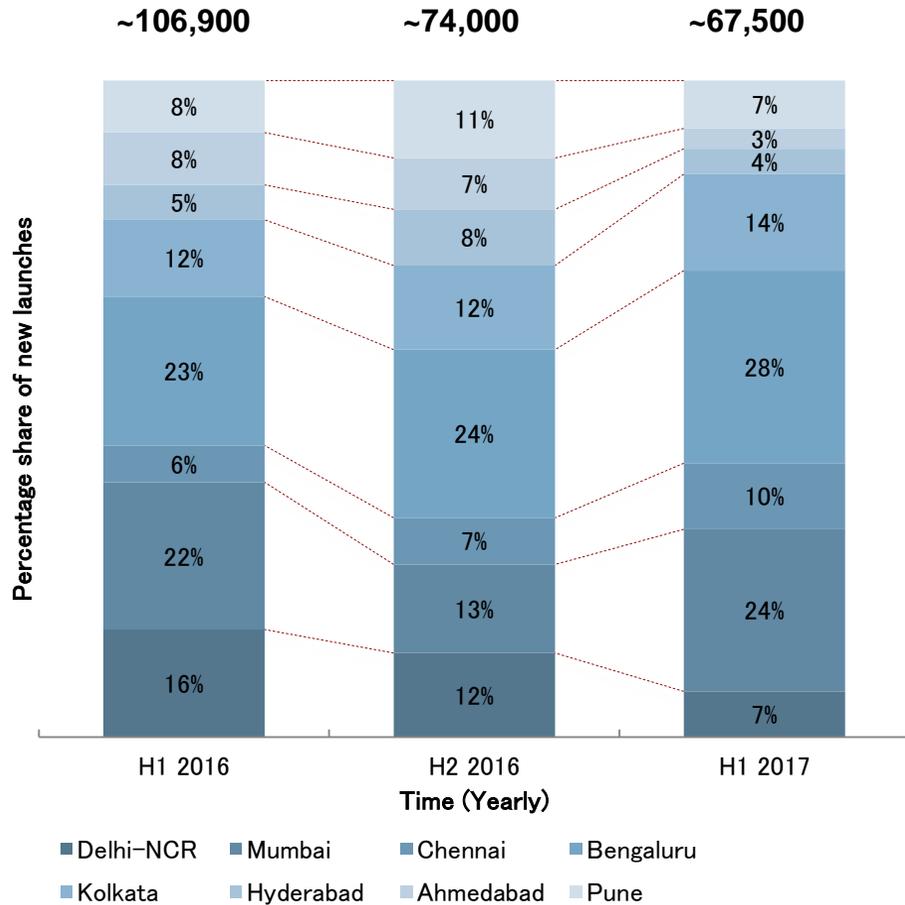
Since 1Q 2017, residential segment has started displaying signs of recovery, encouraging developers such as Lodha and Supertech to commit large investments



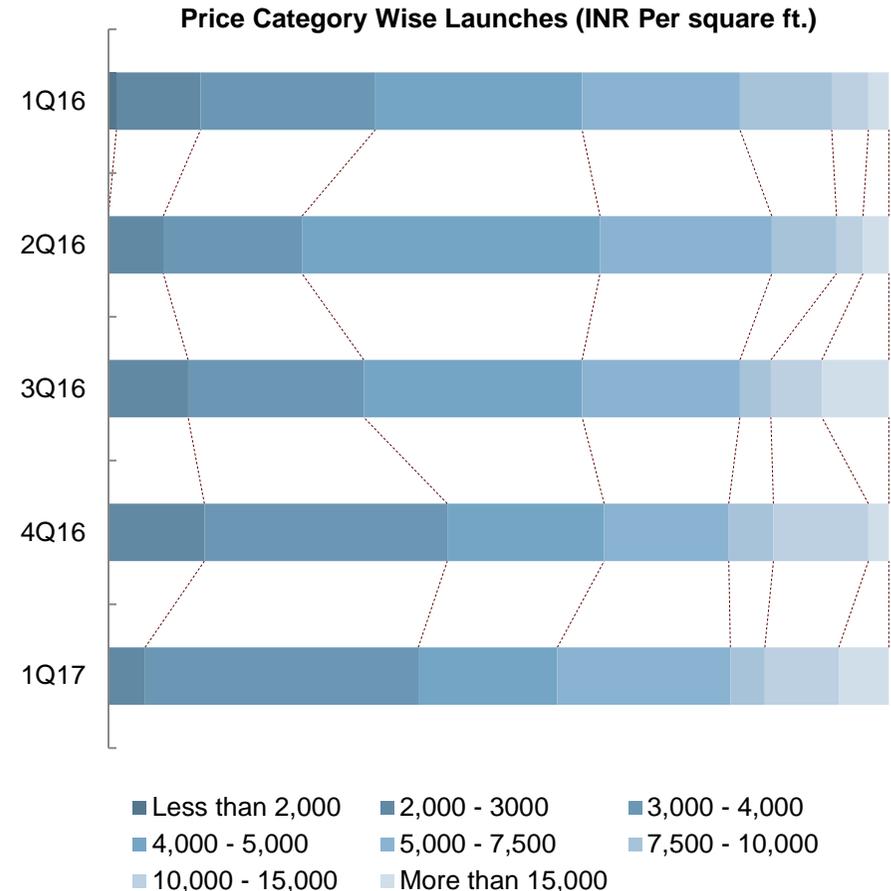
\*Represents data for six cities: Delhi – NCR, Mumbai, Bengaluru, Pune, Chennai, Hyderabad, Kolkata and Ahmedabad

**Mumbai & Bengaluru dominate the new residential apartment supply. In 1Q17, most of the new launches have been in the economy segment (INR 2000–3000 per sqft.) range across India.**

*New Residential Apartment Supply Trends*



*Composition of New Supply*



Source: Knight Frank

Source: Content sourced from proprietary information of Jones Lang LaSalle India

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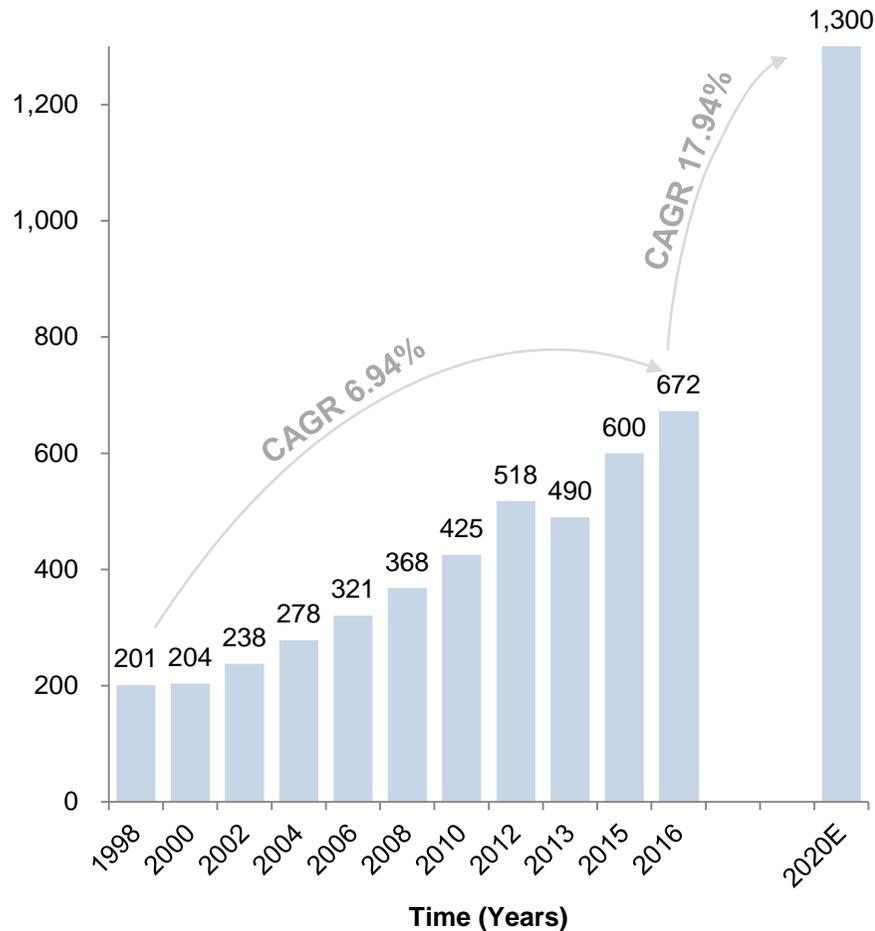
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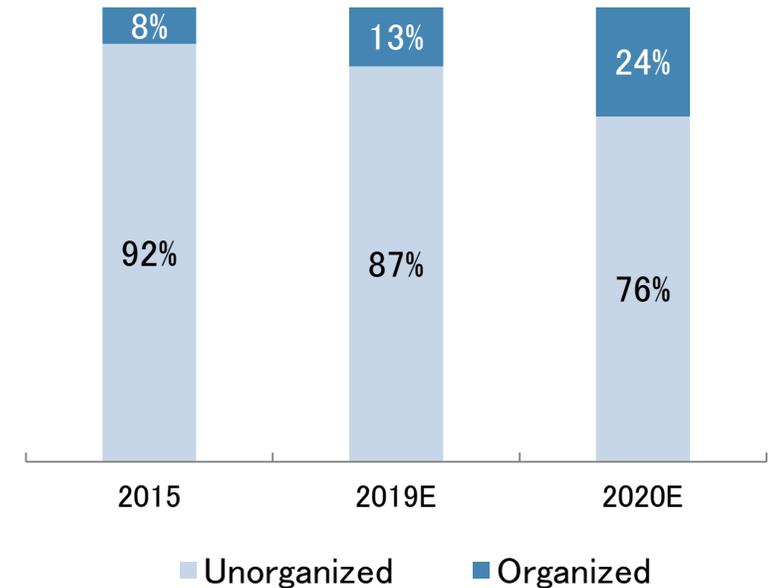
## Retail Space – Overall Outlook

The retail market is expected to more than double in size and become more organized by 2020 on account of rapid urbanization and rising disposable incomes.

Retail Market Size (US\$ Billion)



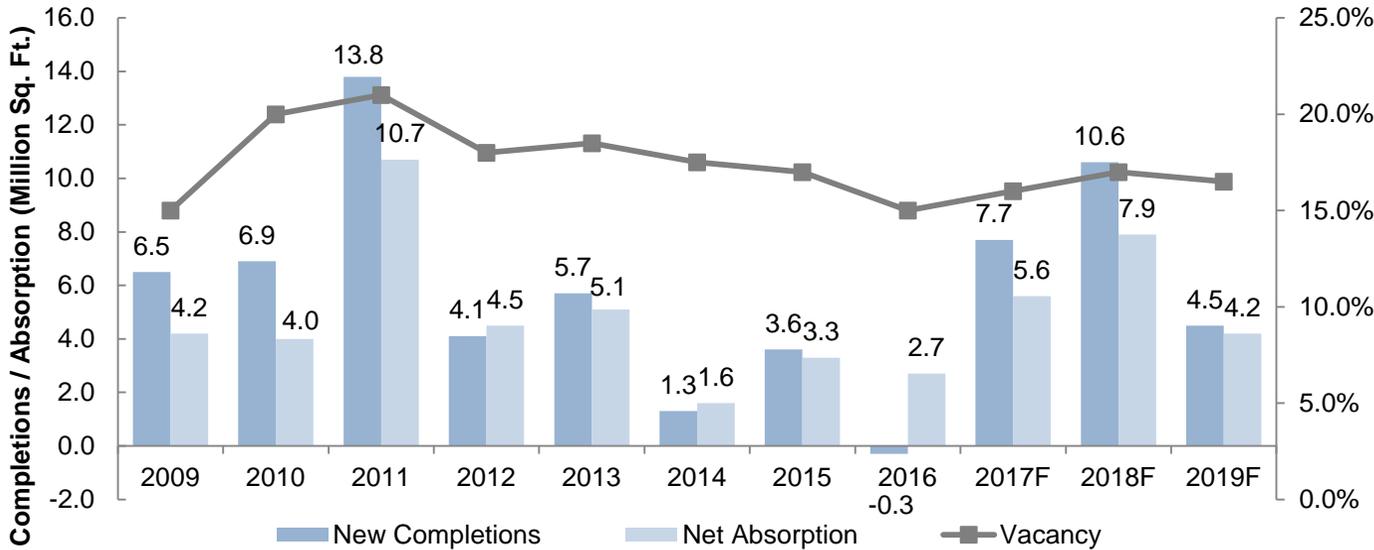
Type of Retail Market in India



- Currently, India has over 15 million Mom and Pop stores (unorganized retail).
- From FY09 - FY13, organised retail in India has witnessed a CAGR of 19%-20%.

Retail space demand has remained stagnant across major markets as a result of domestic consumption slump caused by demonetization, but is expected to recover in this year.

Supply, Net Absorption and Vacancy of Retail Space in India



**New Supply:**

- 2017 is likely to see the highest mall space becoming operational, second to 2011.
- High levels of activity are expected 2017 onwards, after a prolonged slowdown from 2014 that lasted through 2016

**Absorption:**

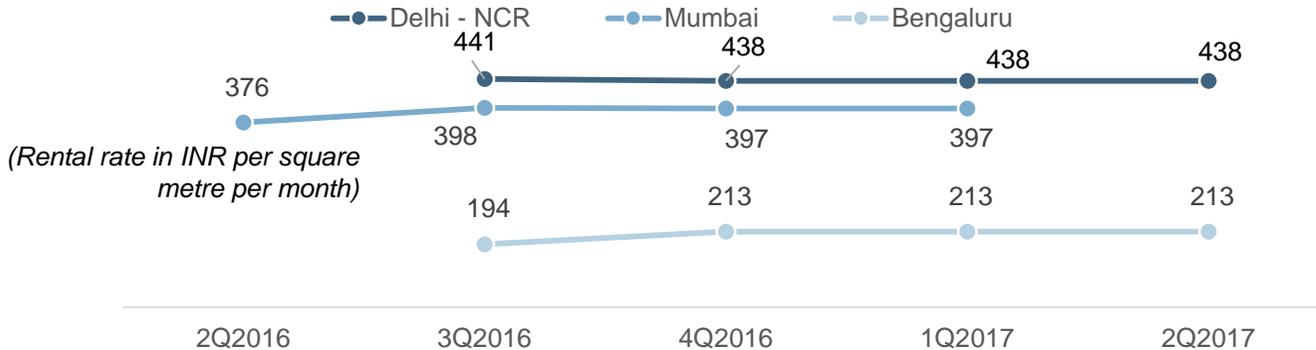
- The domestic consumption story was impacted by demonetization in the last two months of 2016.
- Business is expected to normalize from 2Q17

**Vacancy Rates:**

- India's overall vacancy rate is expected to rise on account of new future supply
- The good malls have done well.

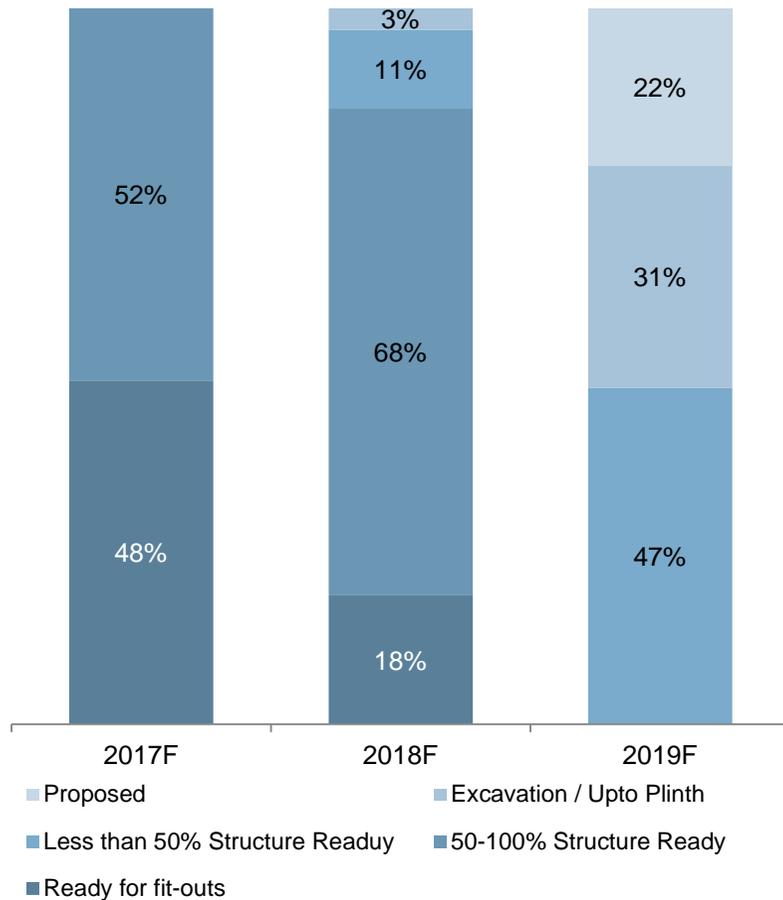
**Rental Rates:**

- Rental rates across major retail markets have remained stable for last 1 year on account of sluggish business activity



**Vacancy rates have increased in malls except for Pune. Delhi–NCR will be the most active market, as it will account for almost half of the total mall supply area coming up by 2018.**

*Construction Status of Future Supply of Retail Malls (2017- 2019)*



- In terms of supply, 2017 appears to be a strong year, with over 7.7 million sq. ft. of net supply expected to come on stream
- The good malls are witnessing moderate to good pre-commitment levels ranging between 51%-75%, whereas the average malls are seeing poor pre-commitments of 0%-50%
- Key retail completions lined up for 2017 include the RMZ Mall in Bengaluru, Seawoods Grand Central in Mumbai, Palladium Mall in Chennai, ICC Mall in Pune, DLF Mall and Wave Hub Mall in NCR Delhi
- Of the total retail supply expected in 2017, 48% is in the ready for fit-outs stage while 52% is in the 50-100% structure ready stage
- By end 2017, NCR Delhi will have a Grade A retail stock of 27.4 million sq. ft. while Mumbai is expected to have a stock of 19.1 million sq. ft. for Grade A retail space

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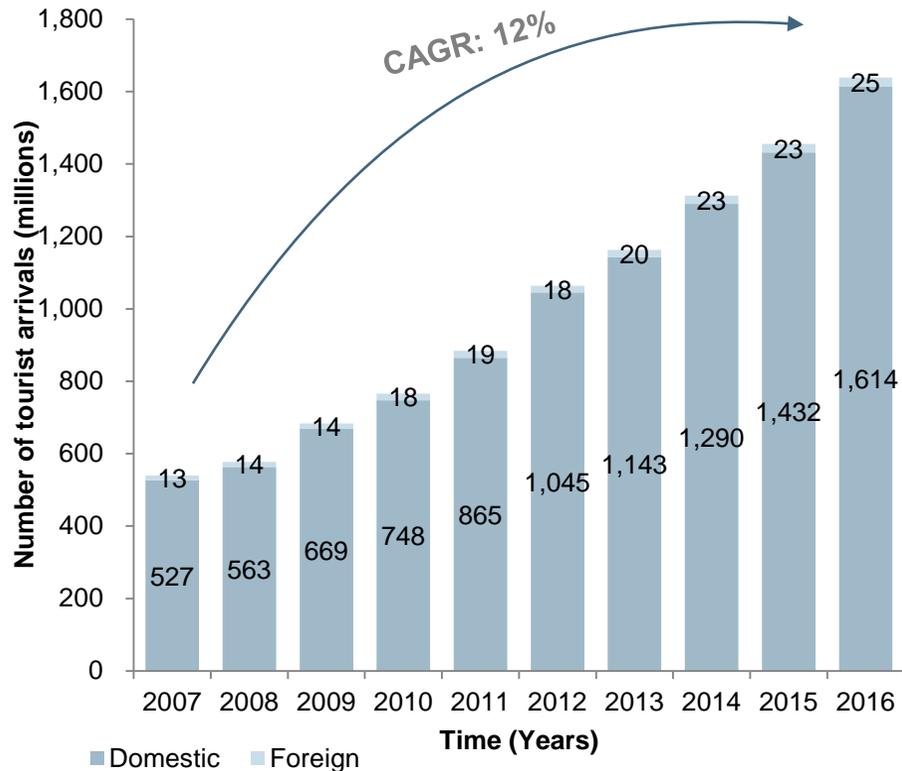
Hotel Market

The travel and tourism industry is growing steadily but requires high quality infrastructure support to be competitive globally.

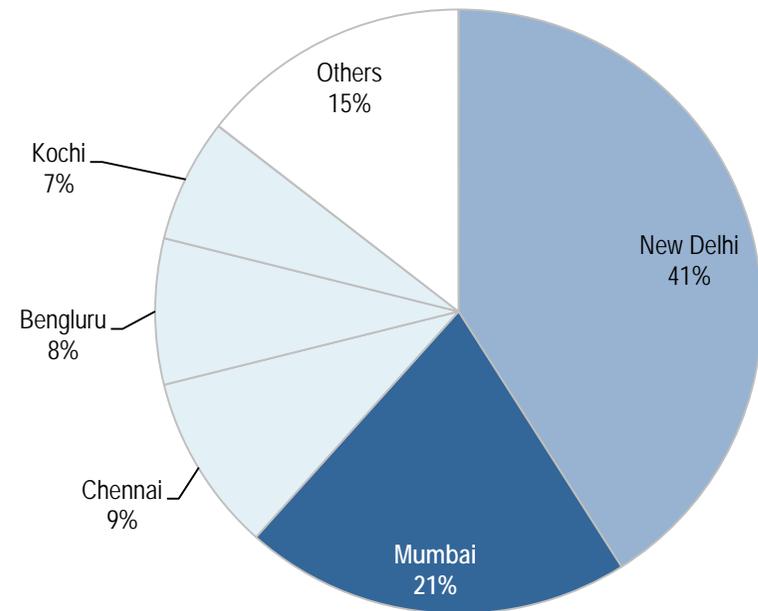
<b>India's Position in the World</b>	<b>By Industry Competitiveness</b>	<b>40th</b>	<b>By Air transport Infrastructure</b>	<b>32nd</b>	<b>By Price competitiveness</b>	<b>10th</b>
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Source: Travel and Tourism Competitiveness Report 2017

Domestic and Foreign Tourist Arrivals



Top cities in Foreign Tourist Arrivals by Air in July 2017

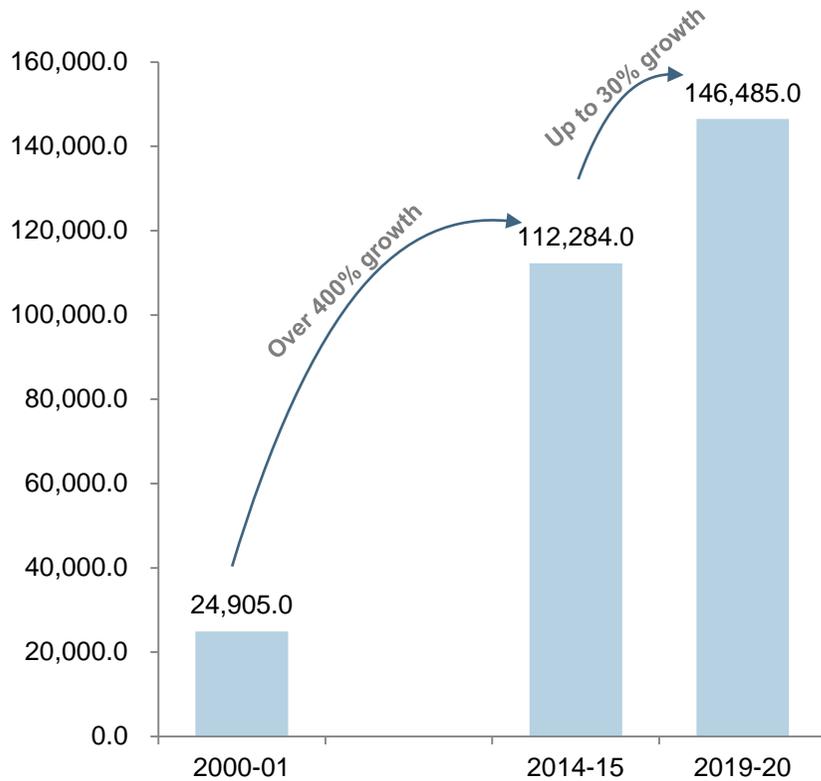


Source: Ministry of Tourism, India

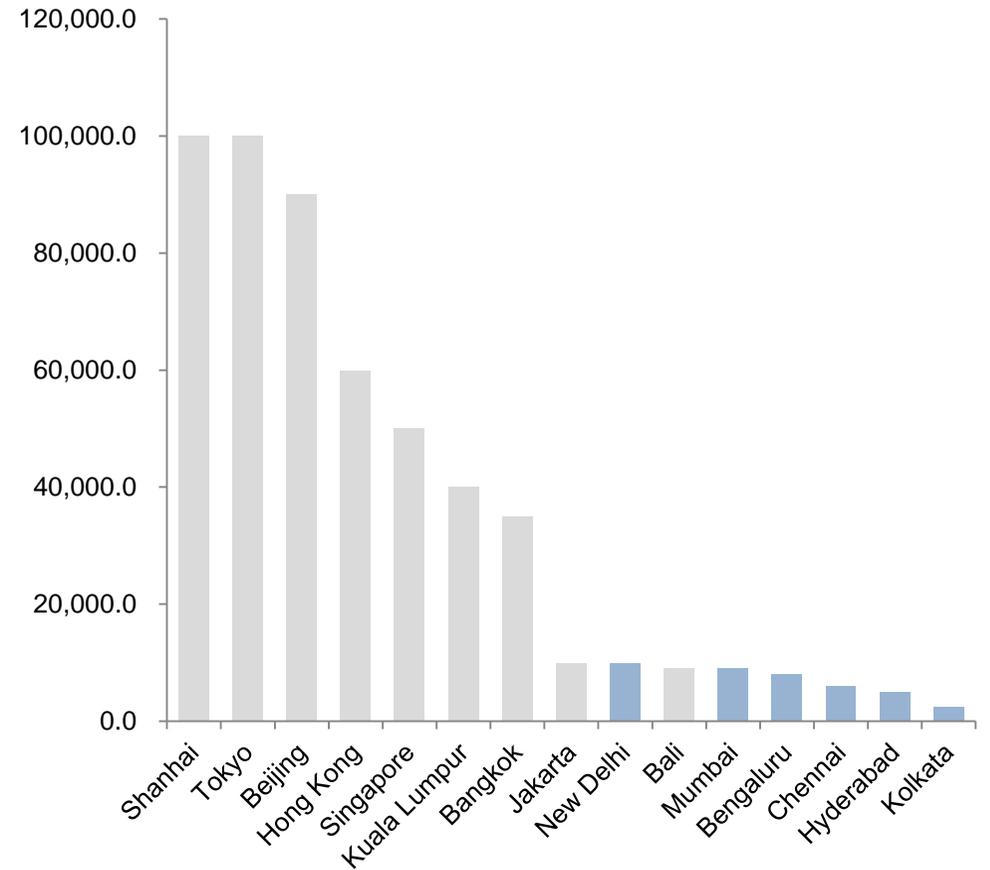
## Hospitality Space – Present and Upcoming Inventory

Although hospitality space inventory has grown by over 400% in the last 15 years, the amount of branded inventory in India is quite low in comparison to other Asia Pacific Cities.

*Growth of Room Supply - India*



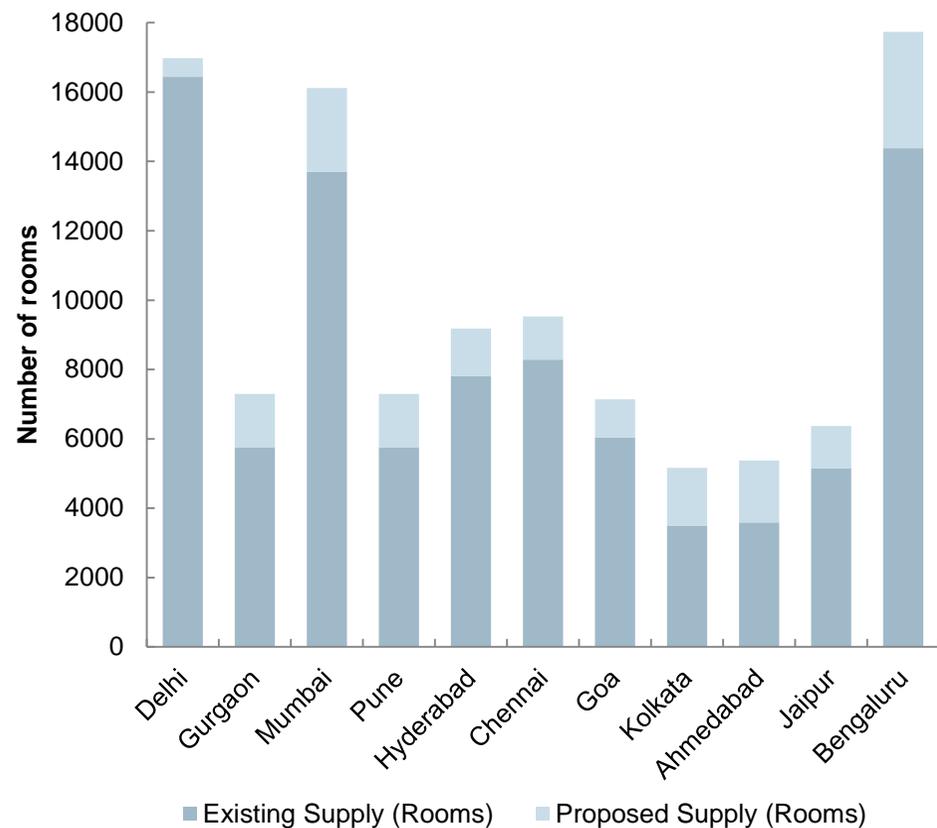
*Brand Inventory across Select Asia Pacific Cities*



Source: Hotels in India, Trends & Opportunities, HVS, 2015

**Delhi, Mumbai and Bengaluru lead in both existing as well as upcoming hospitality space across major Indian cities. All cities portray a healthy supply of new hotel rooms indicating stable economic condition of cities**

*Hotel Rooms Statistics across major cities in 2016*



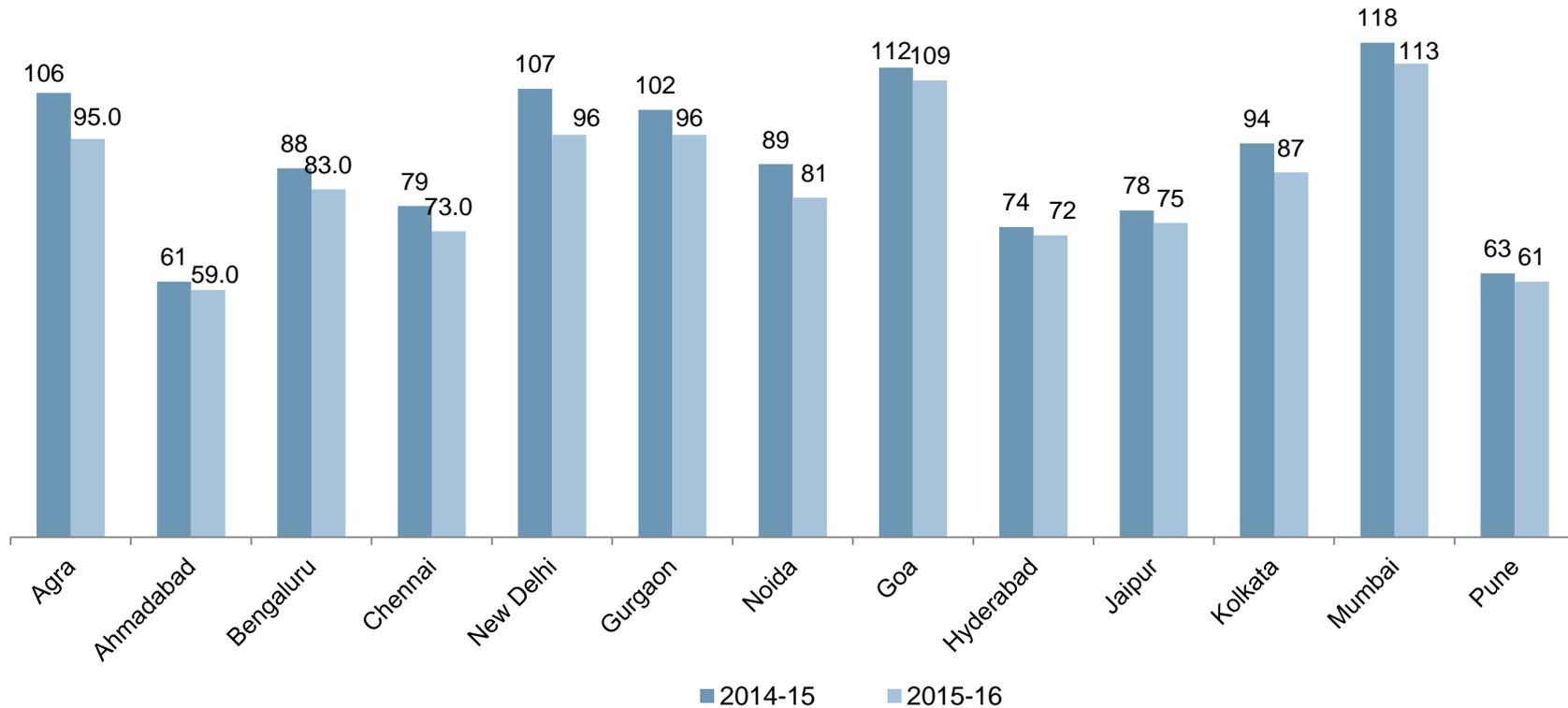
*Hotel Class Definition in India (as per Industry)*

Star Rating	5 Star	5 Star	4-5 Star	3-4 Star	2 Star or less
Room size	>=38	>=38	35-38	25-35	<25
Restaurant	>=3	>=3	1-2	1-2	Only 1
Bar/Lounge	>=2	1-2	Only 1	Only 1	1 or none
Swimming Pool	Yes	Yes	Yes	Yes	No mandate
Gym	Yes	Yes	Yes	Yes	No mandate
Spa	Yes	Yes	Yes	Yes	No mandate
Concierge Service	Yes	Yes	Yes	No mandate	No mandate
Branded Toiletries	Yes	Yes	No	No	No
Trademarked Beds	Yes	Yes	Yes	No mandate	No
Interior Quality	Yes	Yes	Yes	No mandate	No

Source: Content sourced from proprietary information of Jones Lang LaSalle India

Average room rates across major cities have slightly declined or remained the same in the past year due to increased supply and the quest for maintaining occupancy.

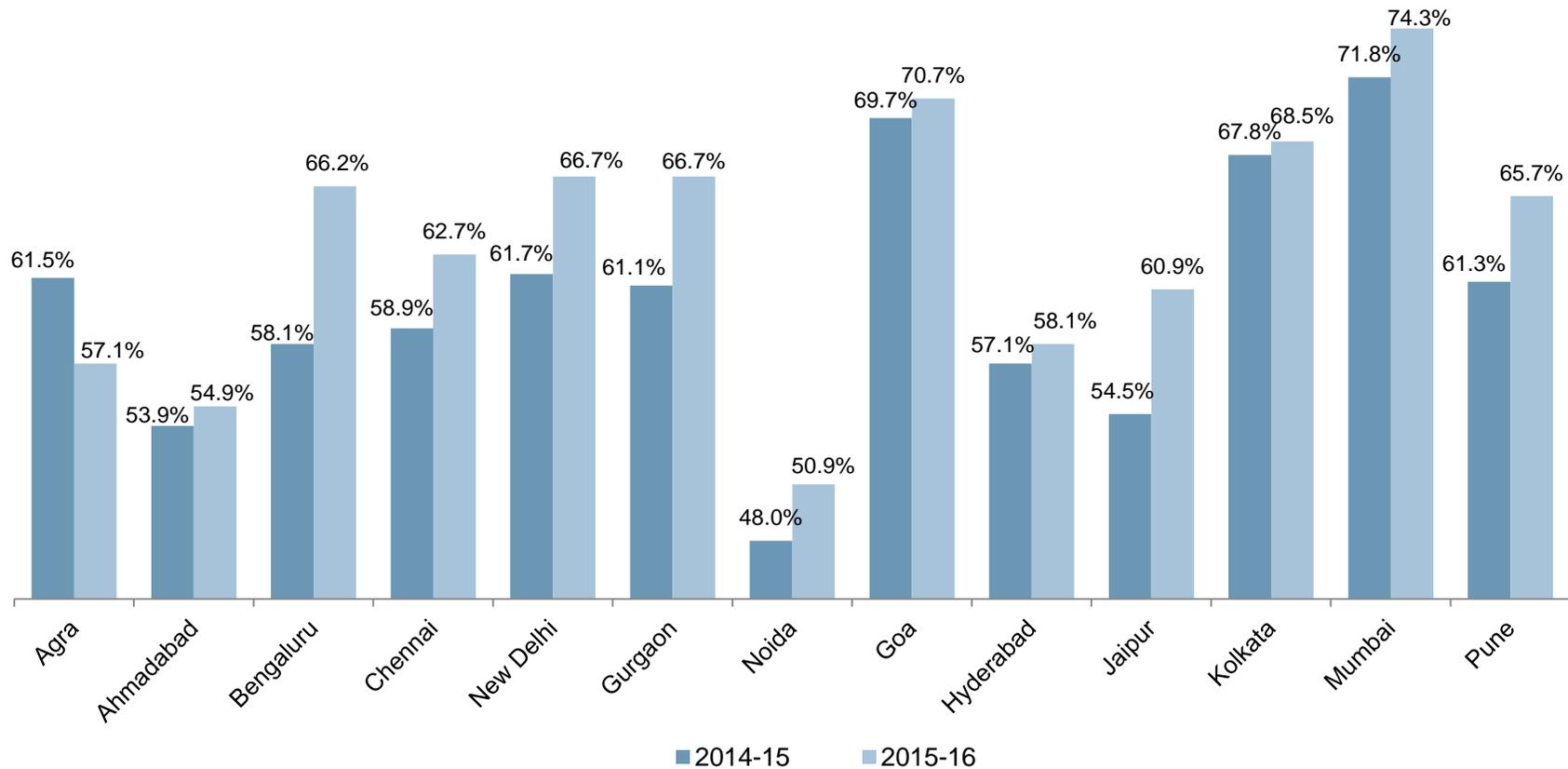
Average Room Rate (US\$) across Major Cities



Source: Hotels in India, Trends & Opportunities, HVS, 2016

Occupancy rates have increased across all major cities with the exception of Agra, indicating that the demand has stayed robust over the past year

Occupancy Rate across Major Cities



Source: Hotels in India, Trends & Opportunities, HVS, 2016

<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
<b>Korea</b>	Economic stagnation has affected residential and retail, but office is stable.
<b>Taiwan</b>	Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.
<b>Singapore</b>	Oversupply in each market has surfaced due to global economic slowdown.
<b>Thailand</b>	Residential and office in Bangkok and its surrounding areas are stable under economic recovery.
<b>India</b>	Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.
<b>Russia</b>	Office and retail markets in Moscow have struggled due to prolonged stagnation.
<b>USA</b>	Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

## Russia

Office and retail markets in Moscow have struggled due to prolonged stagnation.

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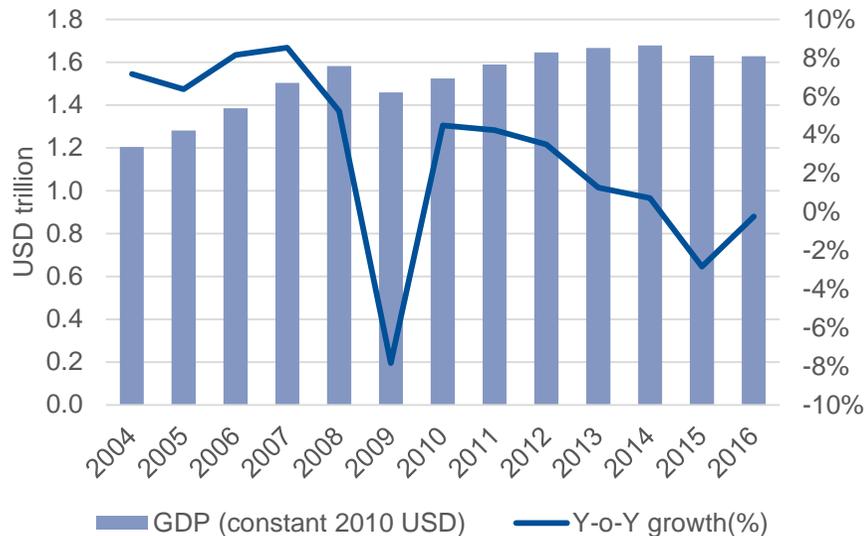
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Hotel Market

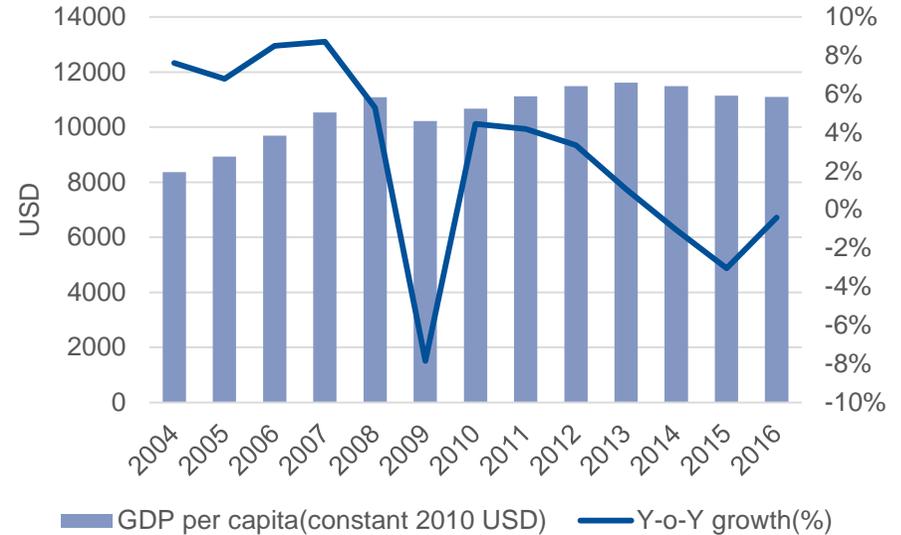
# Russian economy recession is slowing down with real GDP growth of 0% in 2016.

- In 2016 real GDP (constant 2010 USD) accounted for 1.6 USD trillion showing zero percent Y-o-Y growth, compared to -3% in 2015.
- For 2018 and 2019 GDP growth rate is forecasted to be 1.7%. (World Bank)

*GDP(constant 2010 USD)*

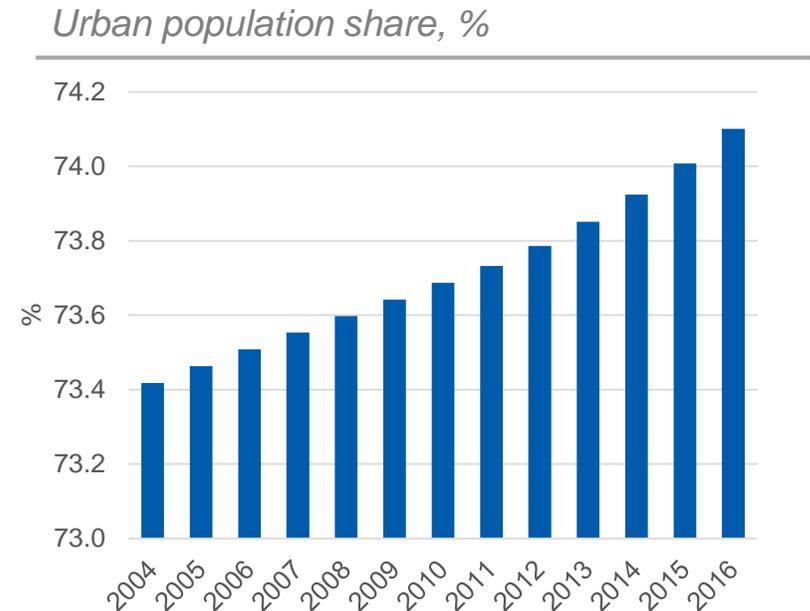
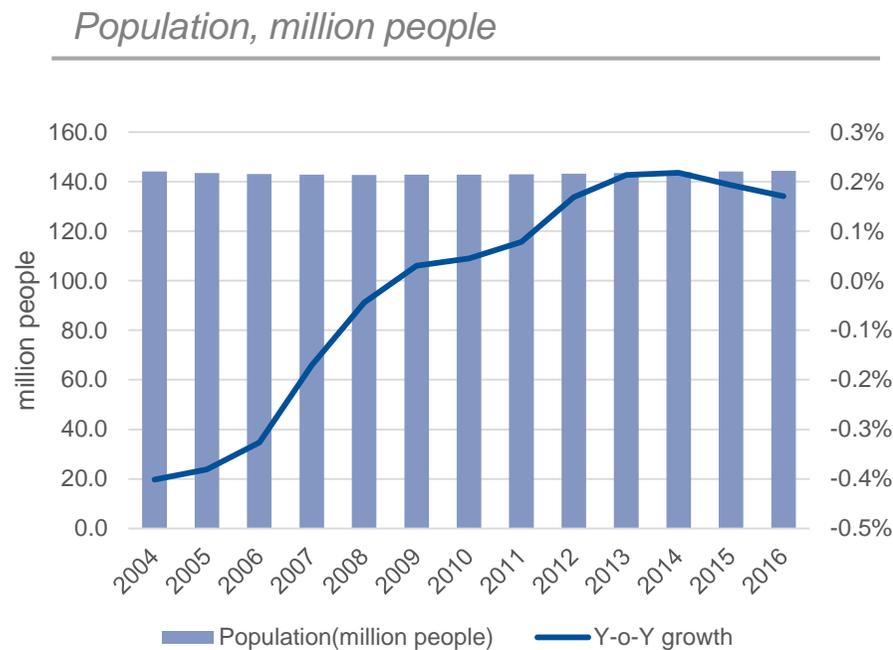


*GDP per capita (constant 2010 USD)*



# Almost 74% of the population live in urban areas and this share is slowly growing.

- In 2016 population of Russia accounted for 144.3 million people with 107 million living in urban areas.
- Over the part 10 year share of urban population has grown by 0.6%.

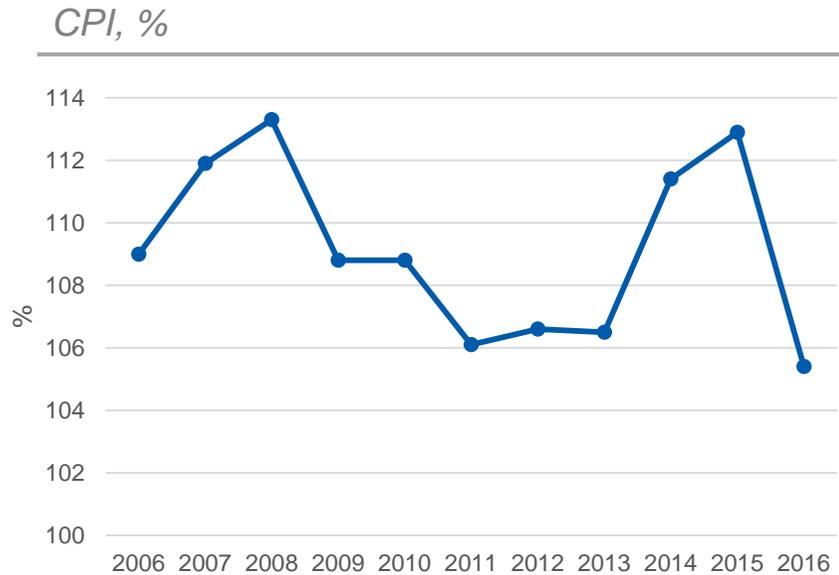


Source: World Bank

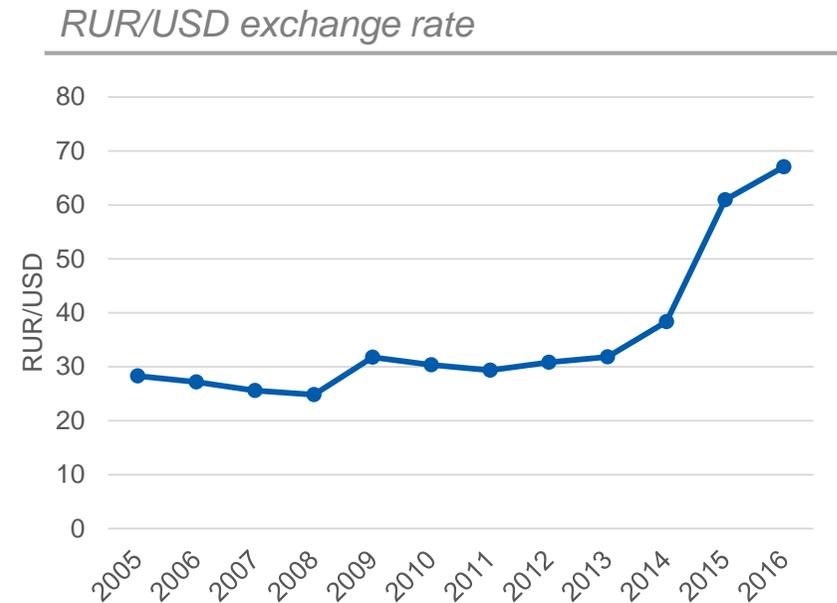
## Macro Fundamentals of Russia

# After significant growth in 2015, inflation was stabilized in 2016 to a manageable level.

- In 2015 consumer price index recorded 12.9% amid RUB depreciation.
- However, due to RUB exchange rate stabilization, inflation slowed down in 2016 to 5.4%.



Source: Rosstat

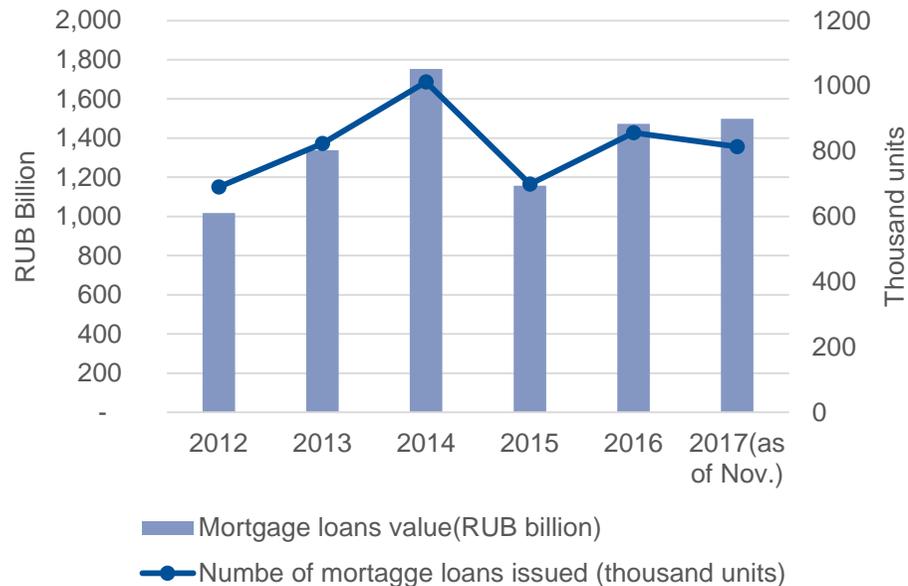


Source: World Bank

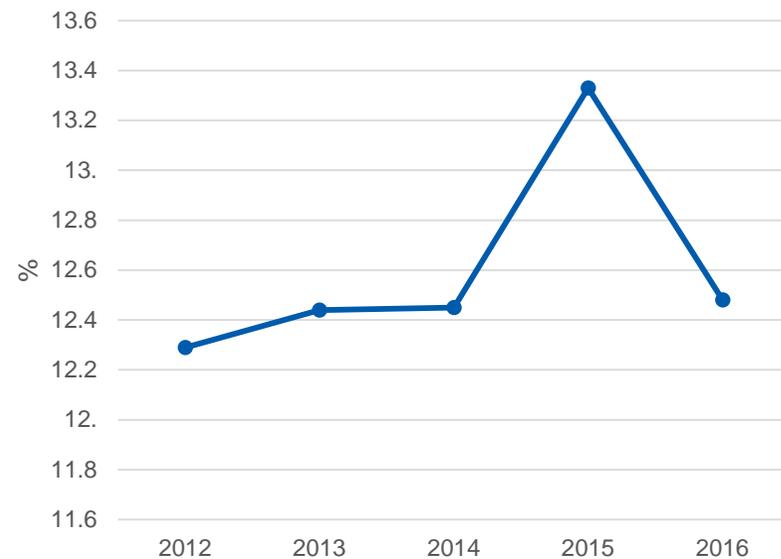
# The mortgage loan market enjoys a strong recovery after decline in 2015.

- In 2016 value of mortgage loans accounted increased to 1.4 RUB trillion. (800 thousand loans)
- The government pursues to increase number of mortgage loans up to 1,200 loans by 2020.

*Mortgage loans issued (volume and value)*



*Mortgage rate, %*



Source: Central Bank of Russia

## Russia

Office and retail markets in Moscow have struggled due to prolonged stagnation.

1 Macro Fundamentals

2 Residential Market

3 Office Market

4 Retail Market

5 Hotel Market

# Russian government is looking to improve the living standards of its citizens and upgrade the quality of urban environment by several stimulation programs.

### The Moscow housing renovation program

- “The Moscow housing renovation program” is aimed at resettlement and demolition of a dilapidated low-rise housing stock, built in 1957-1968, and at the new construction in the liberated territory; it was submitted on September 26, 2017 by the mayor of Moscow
  - Duration of 15-20 years
  - Total financing of 400 RUB billion
  - 6 ml people to be resettled
  - Over 25 ml m2 of residential property to be resettled and demolished (5177 houses = ~10% of total residential area of Moscow)
  - Similar programs will be potentially extended to other regions of Russia

### The "Mortgage and rental housing" priority project

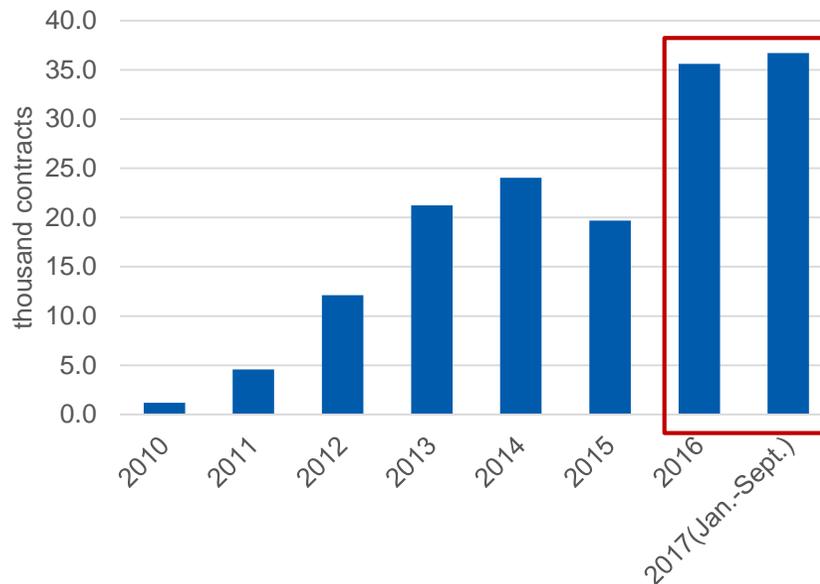
- The main objective of the "Mortgage and rental housing" priority project is to improve the living conditions of Russian citizens by:
  - Ensuring high rates of housing commissioning (goal - commissioning of 88 ml m2 of residential space in 2018, 100 ml m2 of residential space in 2020)
  - Demand stimulation (issuance of 1 ml mortgage loans in 2018, 1.2 ml mortgage loans in 2020)
- Basic approaches of achieving the goals of the housing conditions improvement are:
  - ensuring high rates of construction of high-quality, comfortable and affordable housing by including inefficiently used federal, regional and municipal lands, as well as financing the construction of infrastructure as part of integrated development projects;
  - increasing the availability of mortgage loans and reduce financial risks by forming a liquid market for mortgage securities, introducing electronic bonds and the world's best practices for disclosing information
  - implementation of "pilot" projects of specialized rental housing by using collective investment mechanisms and developing proposals for the further development of the rental market

## Residential Market

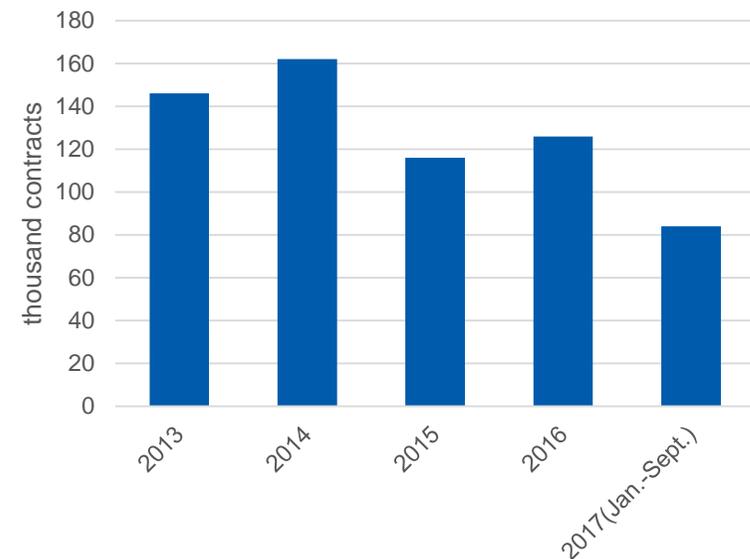
# Demand in primary housing market significantly increased, while growth in secondary market remain modest.

- In 2016 the number of contracts in primary housing market (new houses) increased by 80% in comparison with 2015.
- Secondary housing market grew only by 8.6%.

*Number of contracts in Moscow primary housing market (~new homes)*



*Number of contracts in Moscow secondary housing market (~existing homes)*



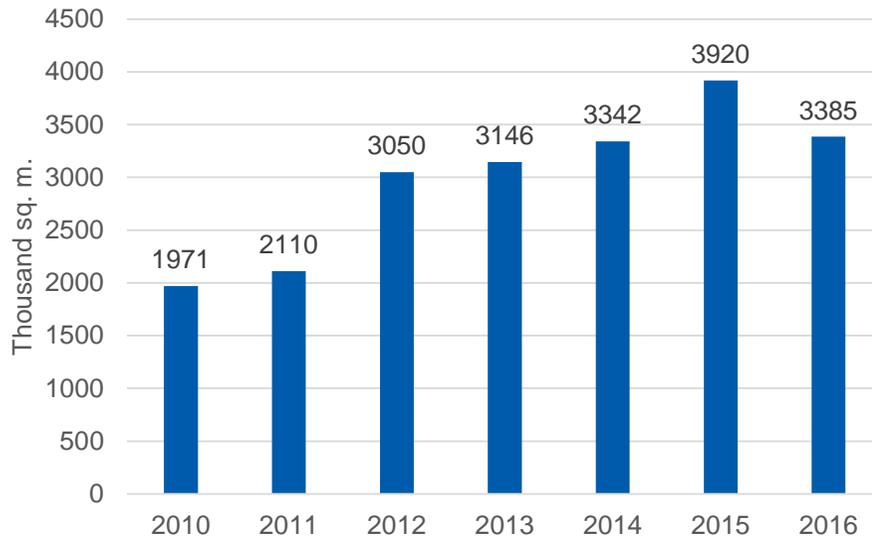
Source: Konti

## Residential Market

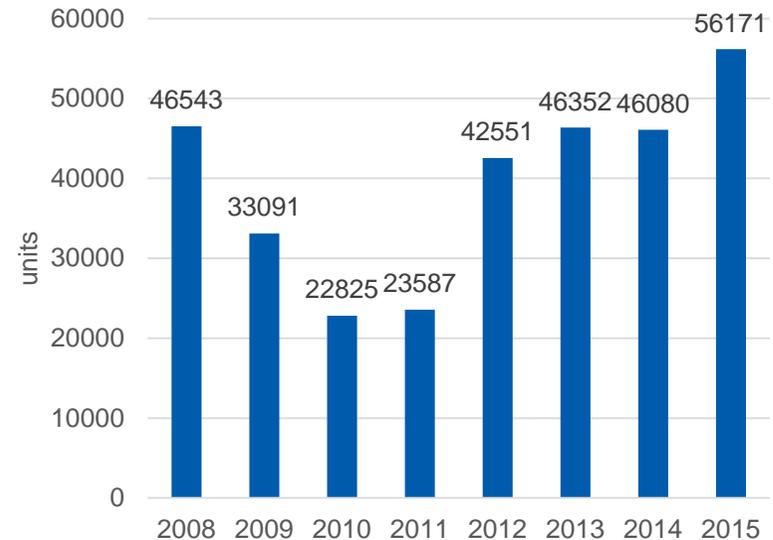
# Supply of new houses in Moscow declined in 2016 due to low demand in the previous year.

- In 2016 constructed living space accounted for 3,385 thousand sq. m. which is 14% lower as compared with 2015.
- Decline can be explained by the fact that in 2015 supply outweighed demand by far.

*Commissioned living space in Moscow*



*Number of commissioned flats in Moscow*



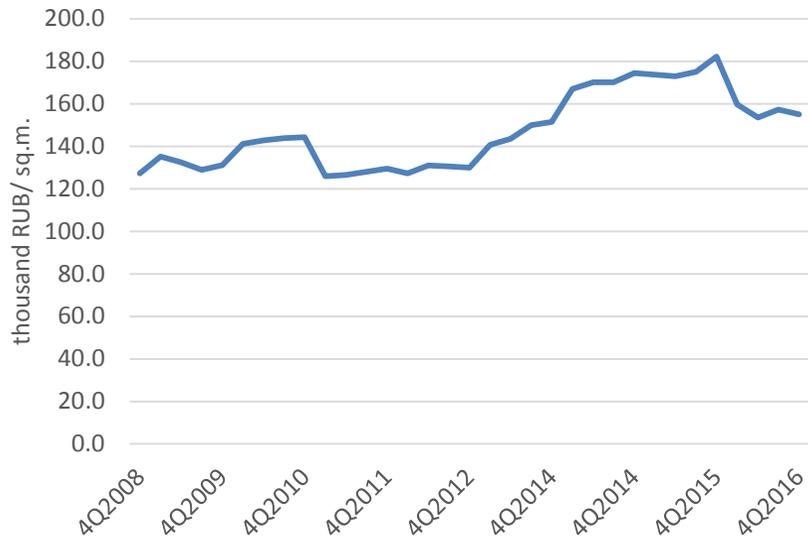
Source: Rosstat

## Residential Market

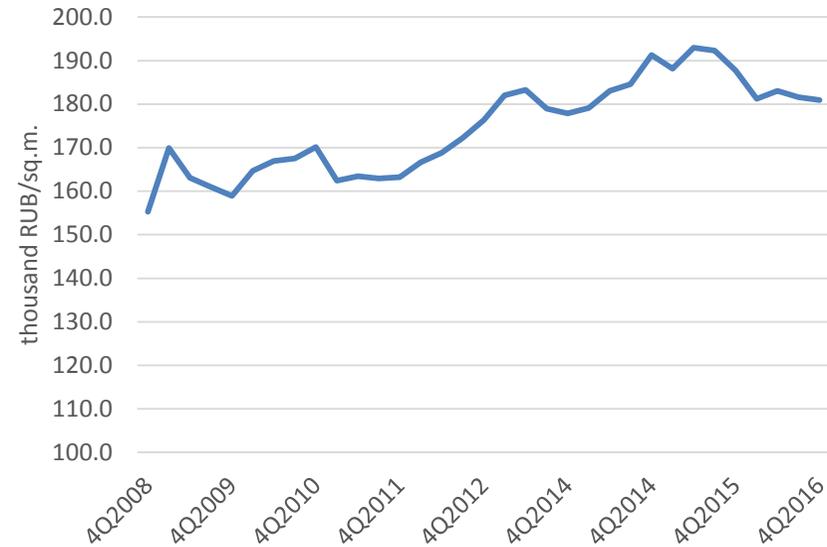
# Average price growth in both primary and secondary Moscow residential market remain negative.

- In 4Q 2016 average price of new residential housing accounted for 155 thousand RUB/sq. m. which is approx. 15% lower as compared with the same period of the previous year.
- Average price in secondary housing market declined by 4%. (180.9 thousand RUB/ sq. m.)

*Average price of primary housing in Moscow*



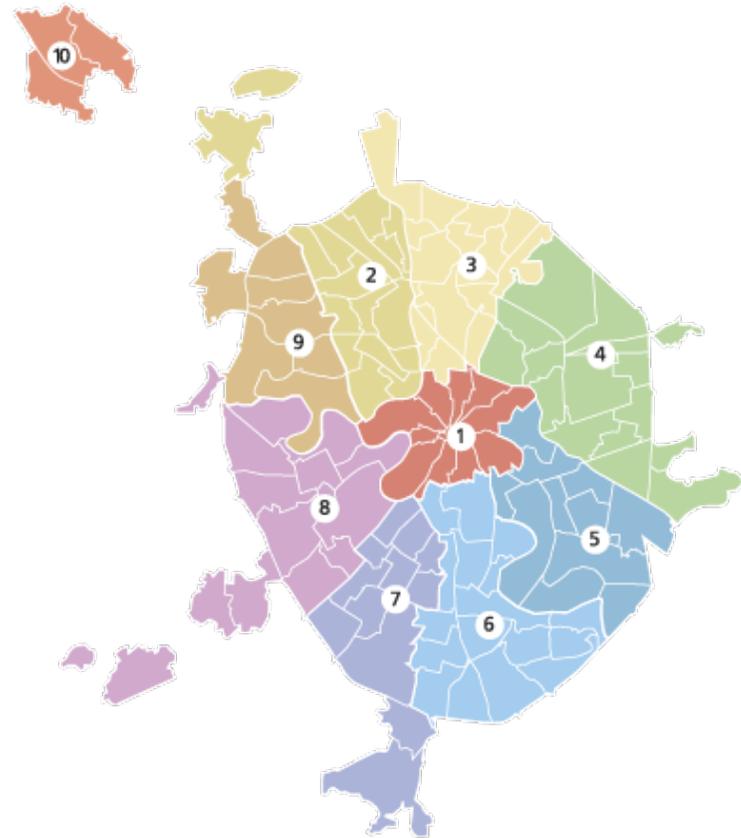
*Average price of secondary housing in Moscow*



Source: Rosstat

# Supply of new housing in 2016 and average price in Moscow very depending on administrative district.

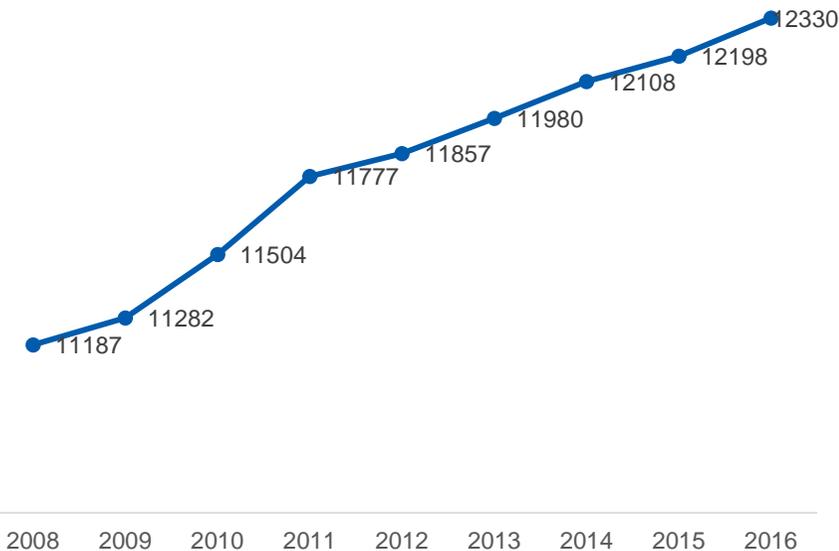
#	District	Average price(RUB per sq. m.), as of Dec. 2016	Supply share, as of Dec. 2016
1	Central Administrative District	250,900	12%
2	Northern Administrative District	166,800	13%
3	North-Eastern Administrative District	168,100	12%
4	Eastern Administrative District	200,300	8%
5	South-Eastern Administrative District	145,400	9%
6	Southern Administrative District	179,000	11%
7	South-Western Administrative District	173,400	8%
8	Western Administrative District	212,900	12%
9	North-Western Administrative District	238,900	18%
10	Zelenograd Administrative District	88,100	1%



Source: Blackwood

## Backup information: population of Moscow

*Population of Moscow, thousand people*



Source: Rosstat

*Population by district, as of 2016*

#	District	Population, people
1	Central Administrative District	768,280
2	Northern Administrative District	1,158,528
3	North-Eastern Administrative District	1,413,739
4	Eastern Administrative District	1,505,801
5	South-Eastern Administrative District	1,380,668
6	Southern Administrative District	1,774,351
7	South-Western Administrative District	1,426,227
8	Western Administrative District	1,362,701
9	North-Western Administrative District	988,423
10	Zelenograd Administrative District	237,897

Source: City Population

## Russia

Office and retail markets in Moscow have struggled due to prolonged stagnation.

1 Macro Fundamentals

2 Residential Market

3 Office Market

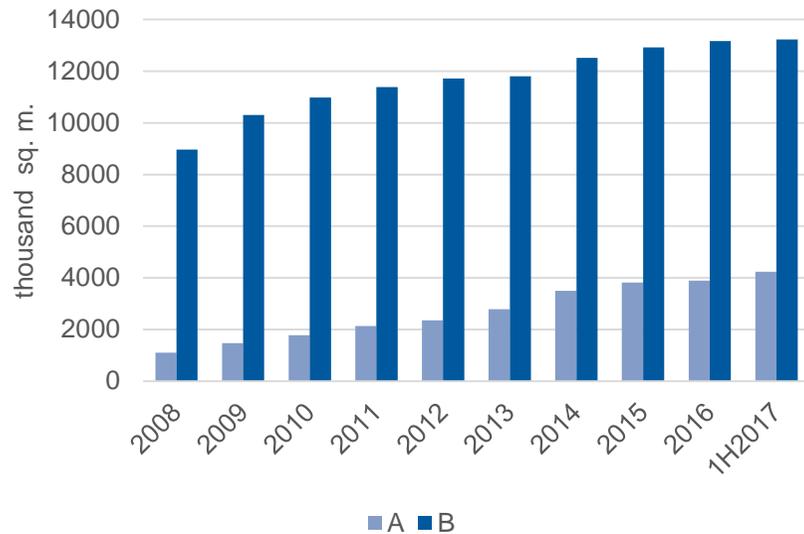
4 Retail Market

5 Hotel Market

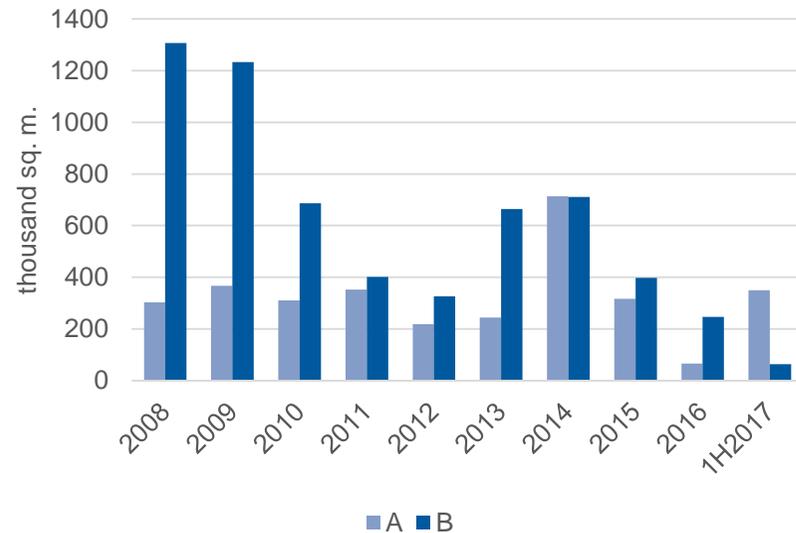
## Construction of offices has shown negative growth since 2014.

- In 2016 construction of offices fell to 313 thousand sq. m. which is the lowest figure over the past decade.
- Total stock of offices accounted for 17 thousand sq. m.

*Total stock in Moscow*



*Total area of office completions in Moscow*

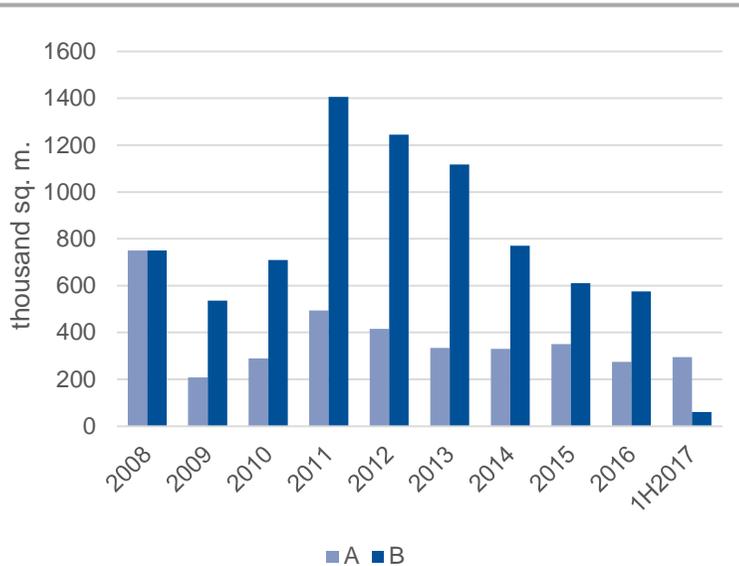


Source: Colliers

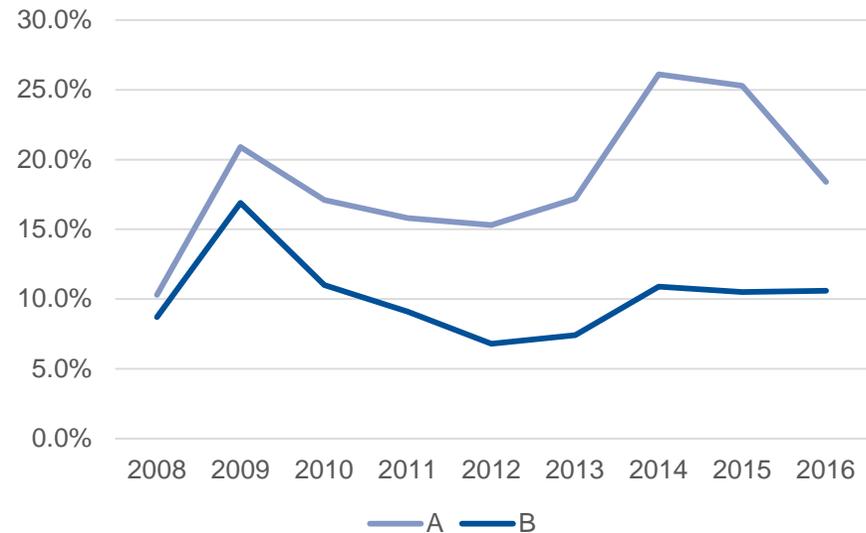
## Demand has showed negative growth in Moscow office market since 2011.

- The annual transaction volume in Moscow accounted for 850,000 sq. m. (11.5% decline )
- Vacancy rate for A class offices fell to by nearly 7%, while B class vacancy rate remained the same.

Total take-up in Moscow, thousand sq. m.



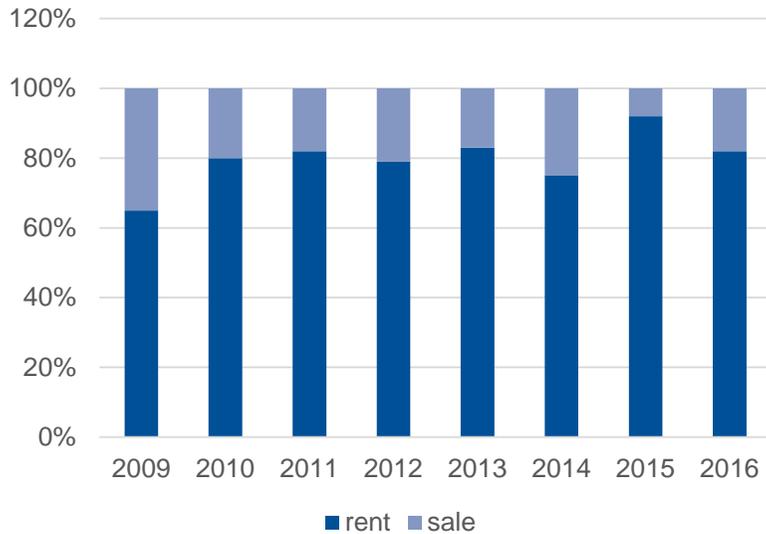
Vacancy rate, %



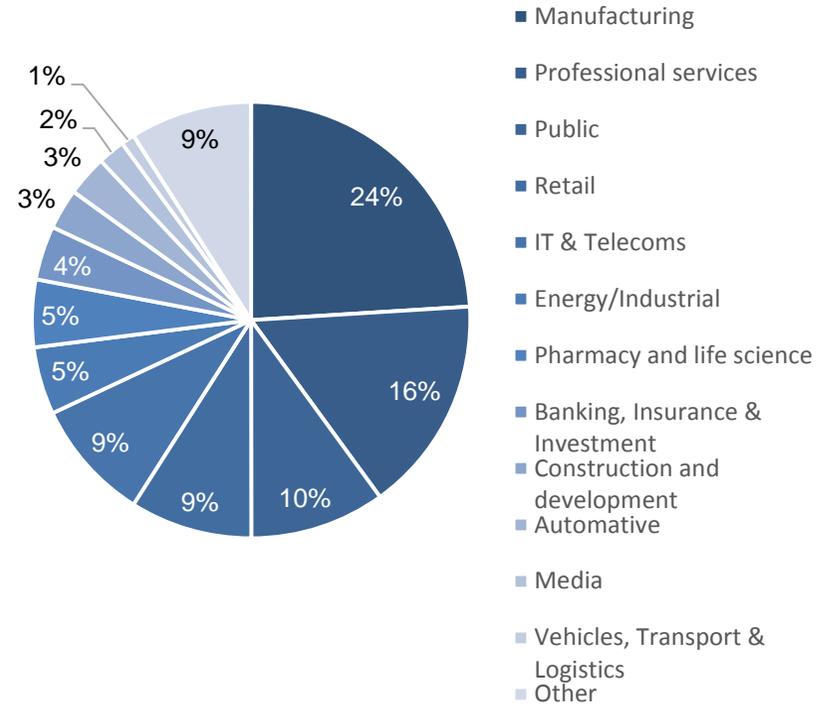
Source: Colliers

## Backup information: take-up structure in Moscow

Take-up structure by type of deal



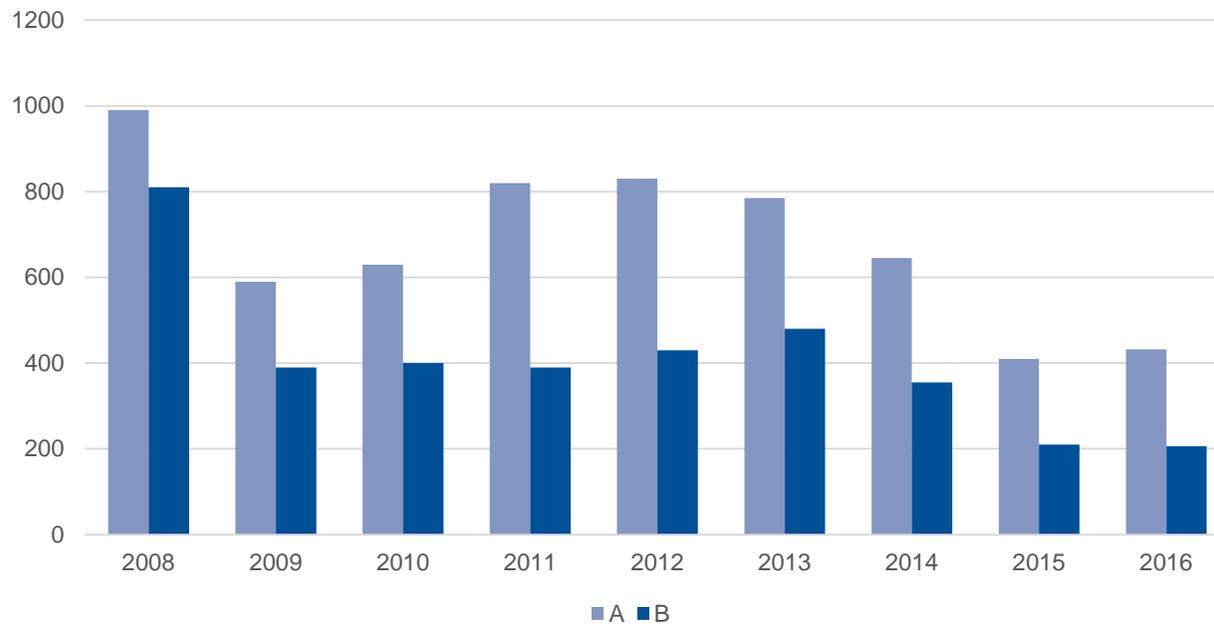
Take-up structure by sector in 2015



Source: Colliers

# Average rental rate in USD significantly declined in 2015 due to local currency devaluation.

*Average rental rate, USD/ sq. m. per annum in Moscow*



Source: Colliers

## Russia

Office and retail markets in Moscow have struggled due to prolonged stagnation.

1 Macro Fundamentals

2 Residential Market

3 Office Market

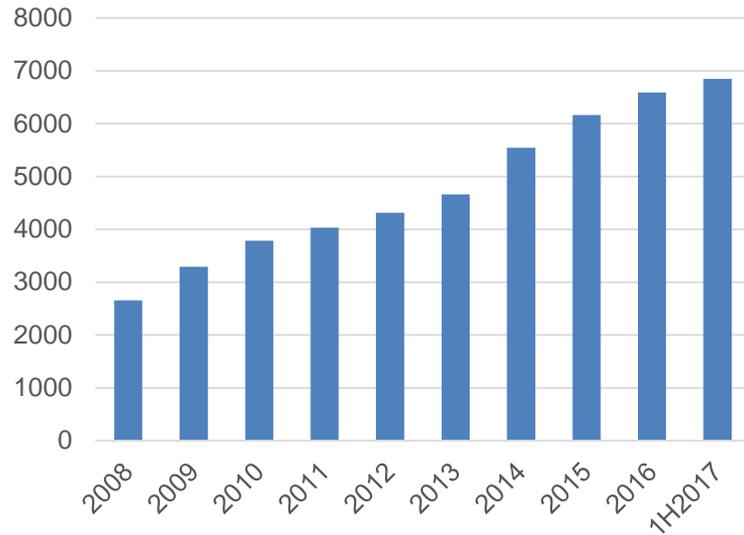
4 Retail Market

5 Hotel Market

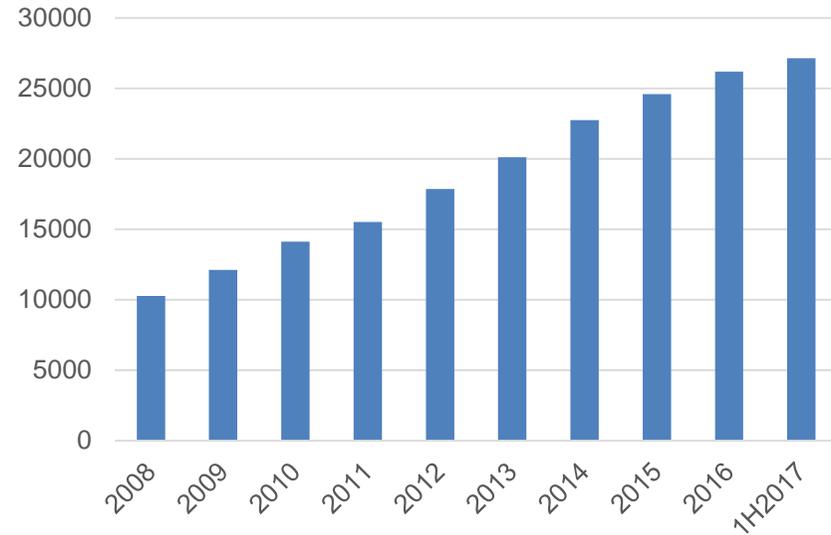
## Backup information: total stock in Moscow and Russia.

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*Total stock in Moscow, thousand sq. m.*



*Total stock in Russia, thousand sq. m.*

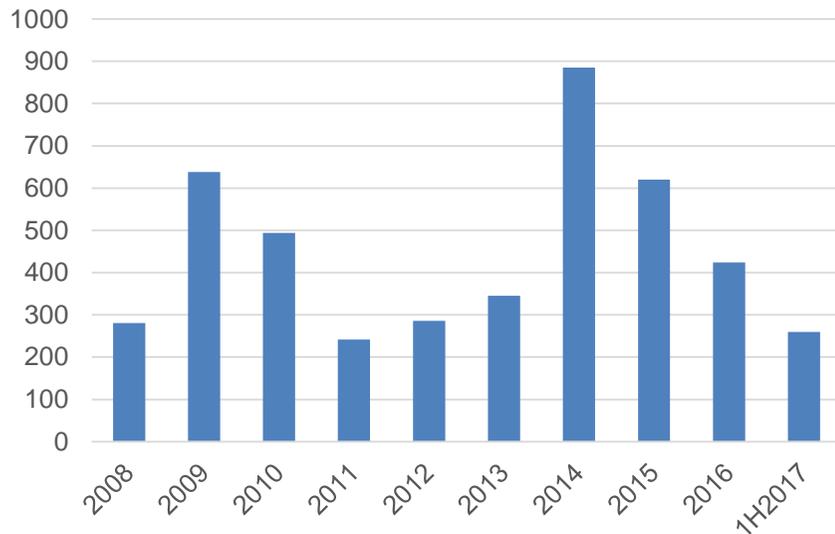


Source: Colliers

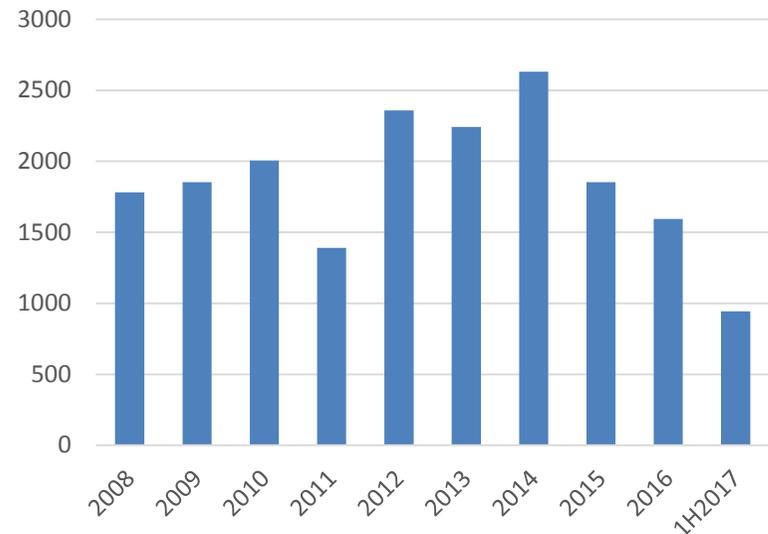
## Construction of shopping center has been declining since 2014.

- In 2016 construction of shopping centers in Moscow fell by nearly 32% to 424 thousand sq. m.
- The decline in figures for the whole country accounted for 14%.

*Completion (GLA) in Moscow, thousand sq. m.*



*Completion (GLA) in Russia, thousand sq. m.*



Source: Colliers

## Retail Market

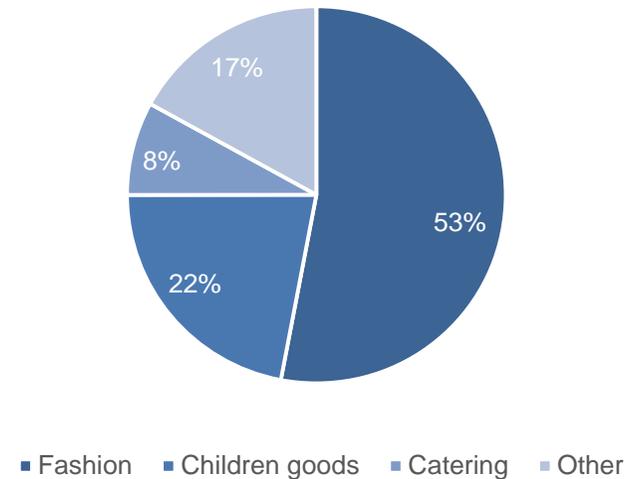
**Despite current economic condition in 2015 number of brands entered the Moscow market still far outweighs number of brands that left.**

- In 2015 36 new international brands entered the Moscow market, while 11 announced to leave.

*Number of international brands entered Moscow market, units*



*Structure of brands entering Moscow in 2015, %*



Source: Colliers

## Russia

Office and retail markets in Moscow have struggled due to prolonged stagnation.

1 Macro Fundamentals

2 Residential Market

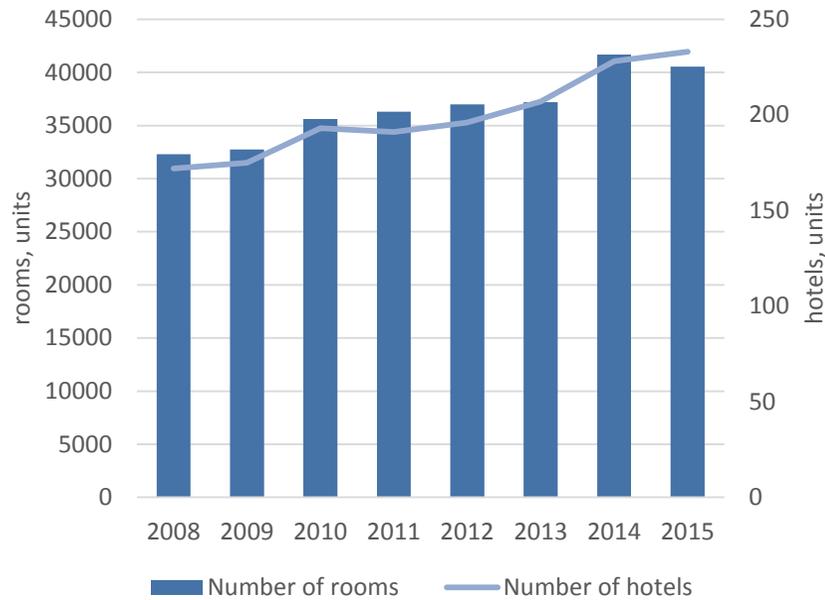
3 Office Market

4 Retail Market

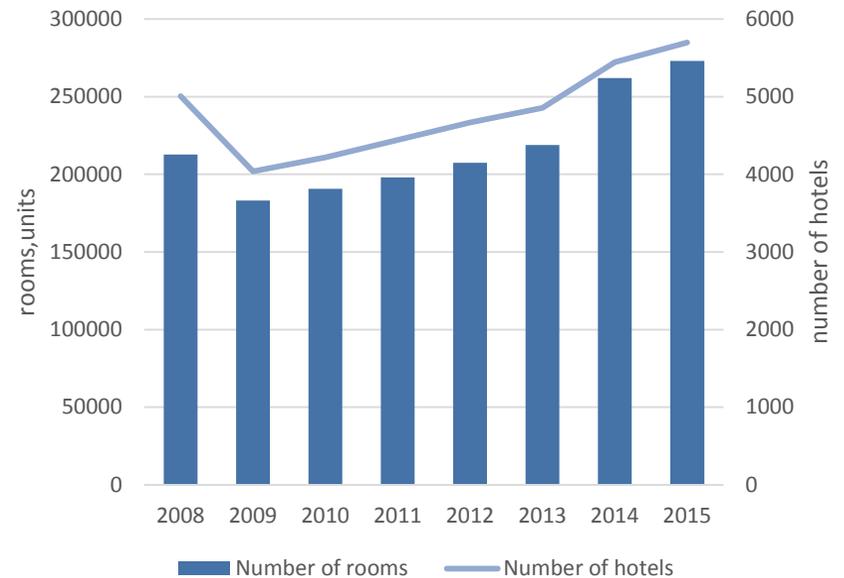
5 Hotel Market

Hotel supply has been staying at the nearly the same level since 2014.

Supply of hotels in Moscow



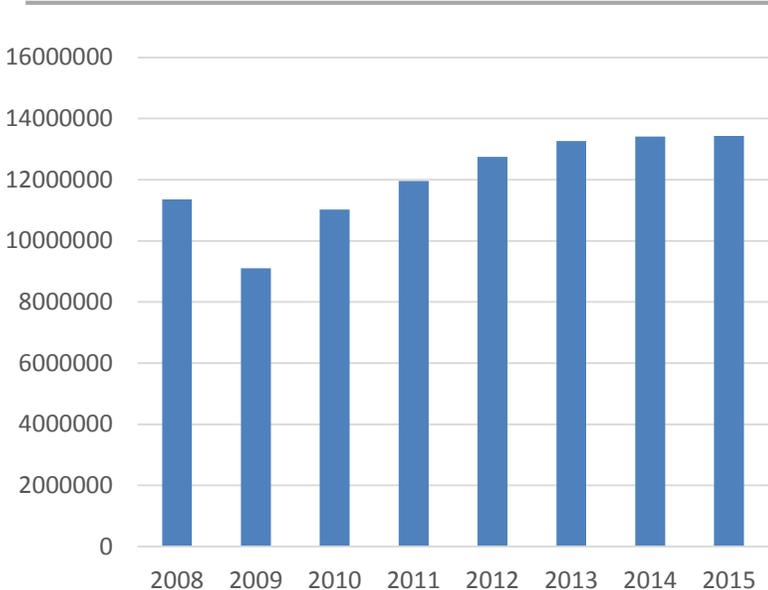
Supply of hotels in Russia



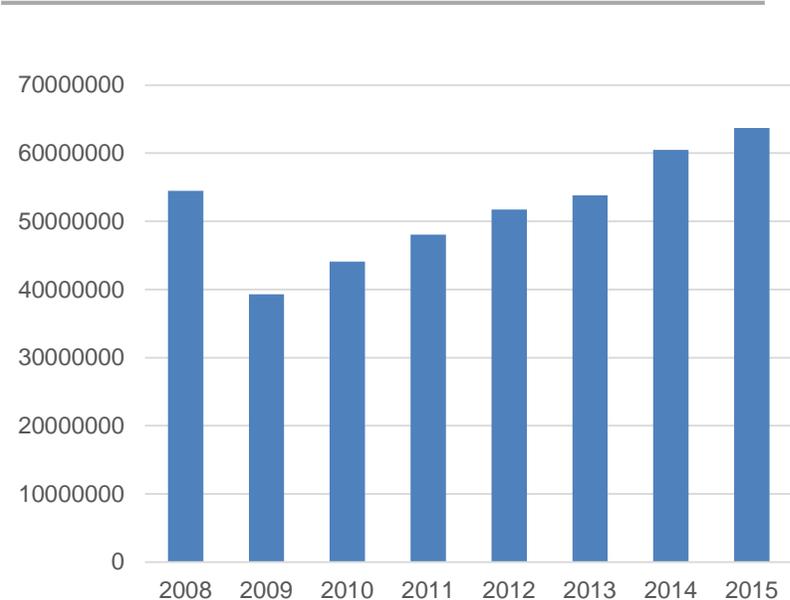
Source: Rosstat

Number of overnight stays in hotels also has not faced significant changes.

Number of stays in hotels, Moscow



Number of stays in hotels, Russia



Source: Rosstat

## Hotel Market

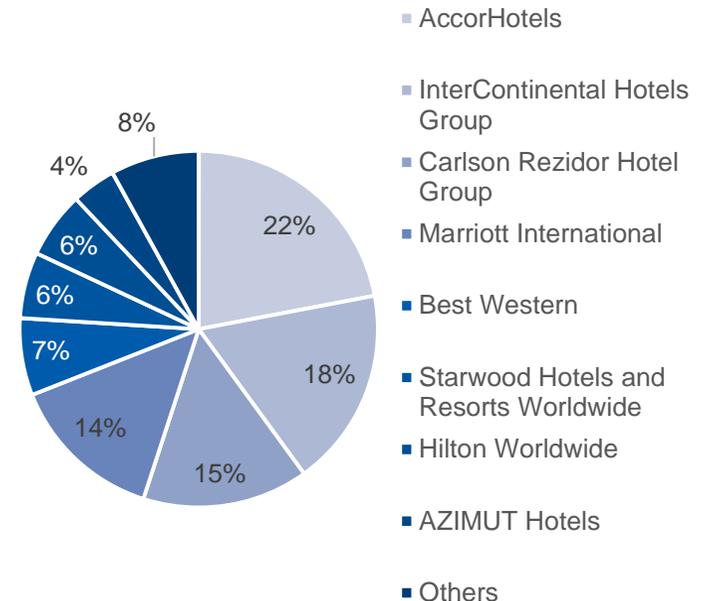
# The Moscow hotel market is dominated by optimistic moods – despite tough economic conditions hoteliers noted that demand has grown since 2015.

- As of 2016 year nearly 15,000 rooms are managed by international hotel operators in the Moscow market.
- The reawakening of Russian and international hotel chains in 2016-2017 is based heavily on the forthcoming FIFA World.

### Key indicators of Moscow hotel market

Indicator	2015	2016
Total supply of hotels managed by international operators	52	58
Number of rooms managed by international hotel operators	13 723	14 942
Average price of a sold room (ADR), Rubles/day	7 245	7 815
Yield per room (RevPAR), Rubles/day	4 890	5 650
Occupancy rate, %	67.5	72.3
Tourist flow, million people	17.1	17.5

### Major international hotel operators in 2016, % of numbers of rooms



Source: Colliers

<b>China</b>	The market has been cooling down after market business uptrend peak has passed.
<b>Korea</b>	Economic stagnation has affected residential and retail, but office is stable.
<b>Taiwan</b>	Development projects will further be focus on Taipei Metropolitan area. And hotel is still showing strong performance.
<b>Singapore</b>	Oversupply in each market has surfaced due to global economic slowdown.
<b>Thailand</b>	Residential and office in Bangkok and its surrounding areas are stable under economic recovery.
<b>India</b>	Consumptions by the huge middle class has driven favorable economic conditions in various real estate domains.
<b>Russia</b>	Office and retail markets in Moscow have struggled due to prolonged stagnation.
<b>USA</b>	Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential.

## USA

Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

1

Macro Economy

2

Real Estate Investment Market

3

Residential Market

4

Office Market

5

Hotel Market

# 1. Macro Economy

## The United States of America can be divided into 4 regions.

- The 4 regions of the USA include Northeast, Midwest, South and West.

	Northeast		South		Midwest		West		
	<i>New York</i>	<i>Boston</i>	<i>Dallas</i>	<i>Houston</i>	<i>Chicago</i>	<i>Detroit</i>	<i>Los Angeles</i>	<i>Seattle</i>	<i>San Francisco</i>
<b>Population. – Ppl.</b> (2016*)	8,537,673	673,184	1,317,929	2,303,482	2,704,958	672,795	3,976,322	704,352	870,887
<b>GDP – \$M USD</b> (2016*)	1,657,457	422,660	511,606	478,618	651,222	252,691	1,001,677	330,409	470,529

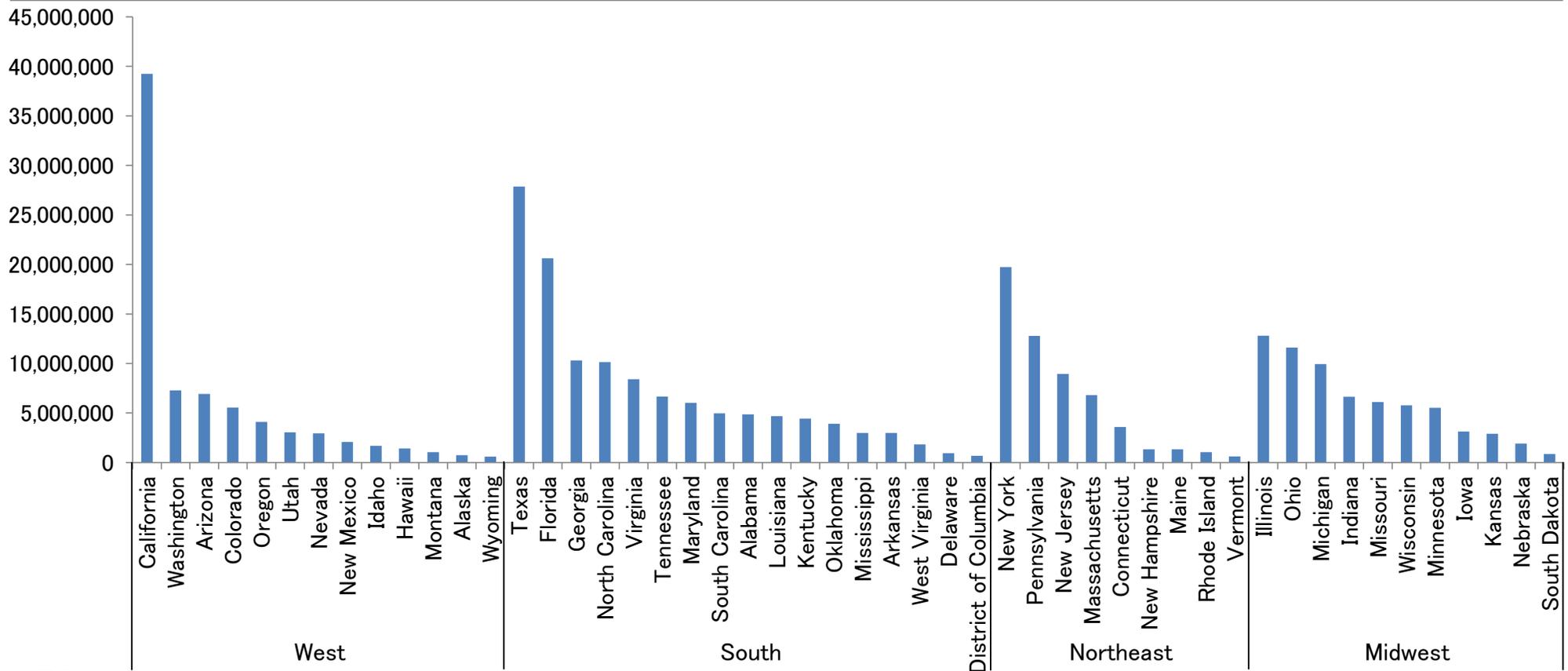
\*Estimated

# 1. Macro Economy

Regarding the state-wise population, California is the most populous state, followed by Texas, Florida, New York and Illinois.

■ The population of California is 39.2 million, Texas 27.8 million, Florida 20.6 million, New York 19.7 million and Illinois 12.8 million.

State-wise population (2016)

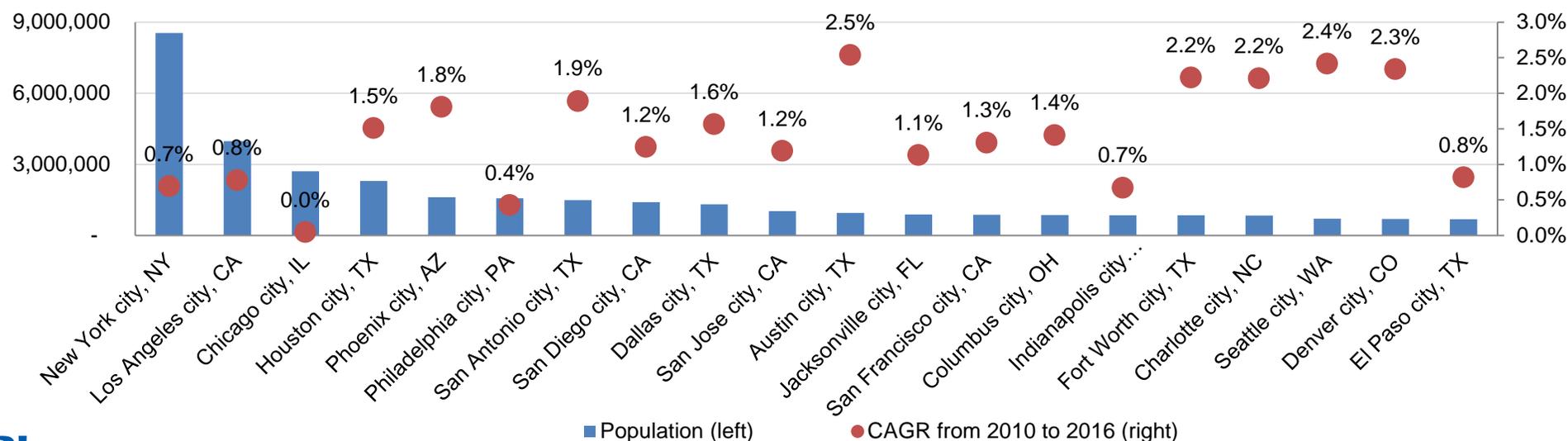


# 1. Macro Economy

In the metropolitan cities, the population of New York and Los Angeles exceeds 30 million. Among the top 20 cities in terms of population, the annual growth rate of 5 cities exceeds 2% after 2010.

- Among the top 20 cities in terms of population, 6 belong to Texas.
- The 5 cities that had their annual growth rate more than 2% after 2010 are as follows:
  - Austin, Texas 2.54%
  - Seattle, Washington 2.41%
  - Denver, Colorado 2.34%
  - Fort Worth, Texas 2.22%
  - Charlotte, North Carolina 2.21%

Population (Top 20 Cities, 2016)

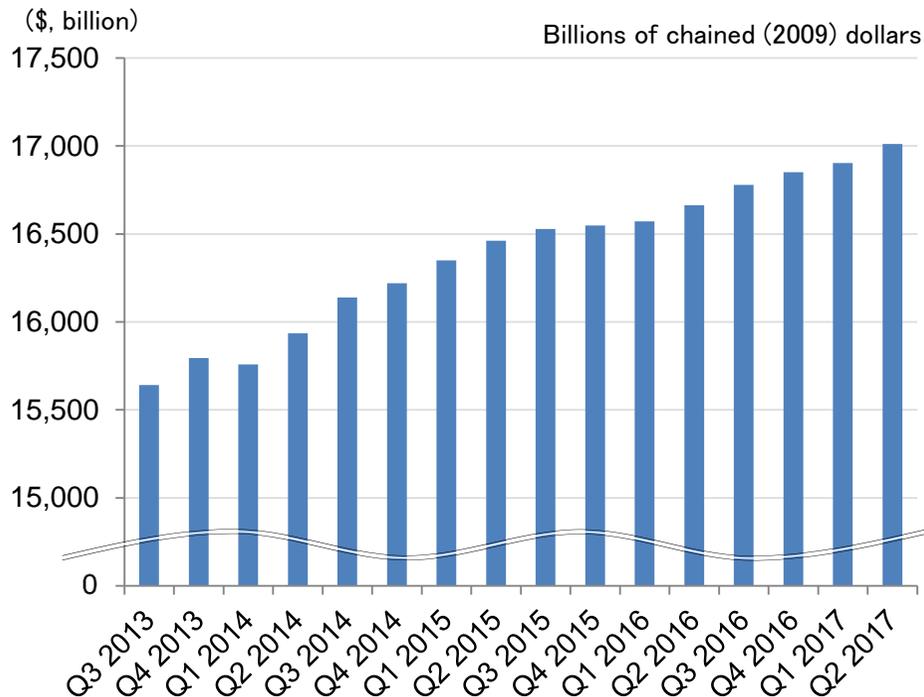


# 1. Macro Economy

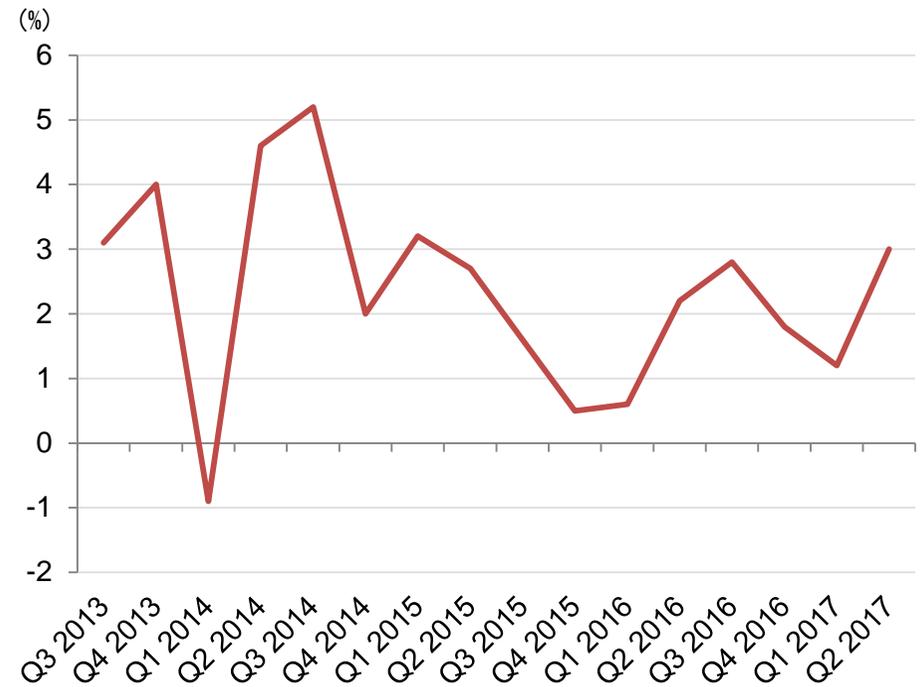
The US real GDP has been continuously growing for the past 4 years (except Q1 2014).

- The real GDP was increased by 8.8%, from \$15.6 trillion in Q3 2013 to \$17.0 trillion in Q2 2017.
- The real estate business grew by 2.7% in the most recent quarter, and became the main driver of economic growth.

Trends of real GDP



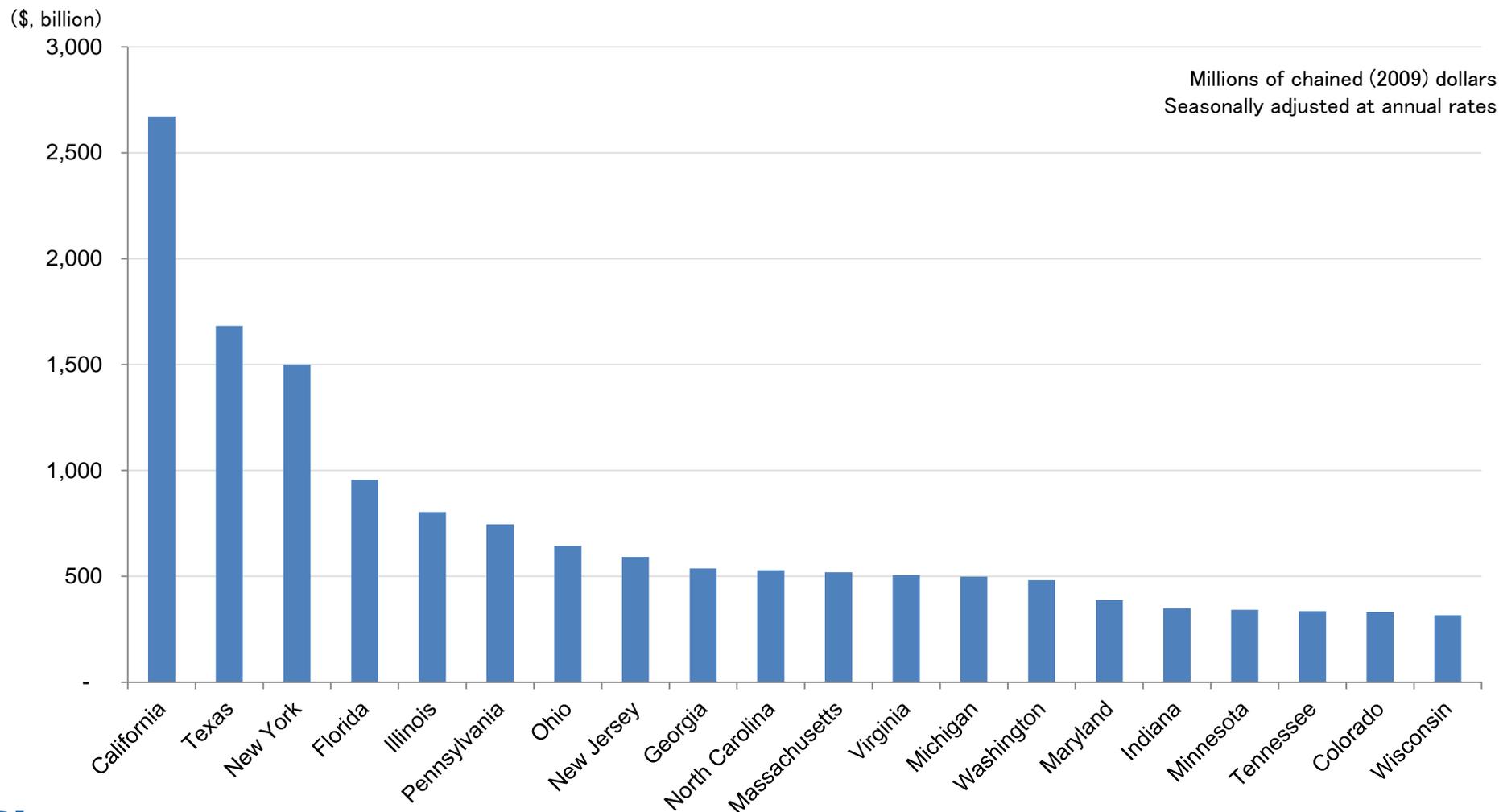
Trends of GDP growth rate



## 1. Macro Economy

Regarding the state-wise real GDP, California has the highest real GDP of \$2.5 trillion, followed by Texas and New York with approximately \$1.5 trillion. However, the other states have their real GDP below \$1 trillion.

State-wise real GDP (Top 20 states, Q1 2017)

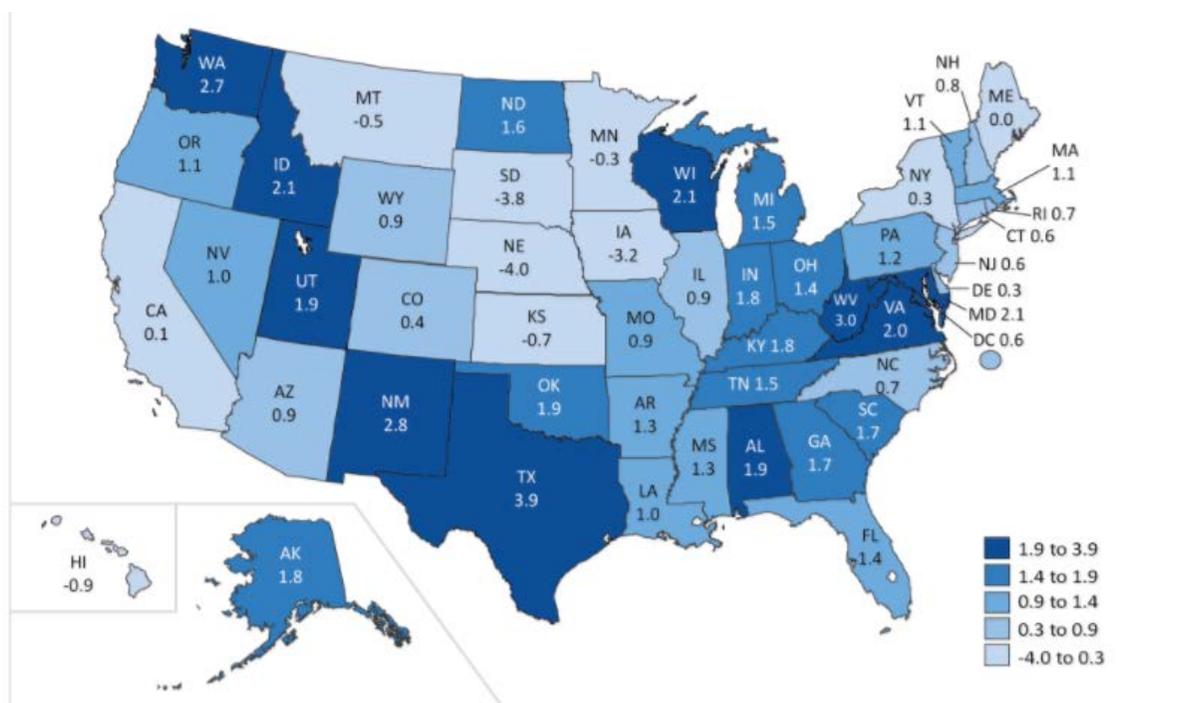


## 1. Macro Economy

# The real GDP of 43 states and the District of Columbia grew between 2015 and 2016.

- Especially, the growth rate of southern states, including Texas and New Mexico was relatively high.

### Real GDP growth by states (2015 –2016)

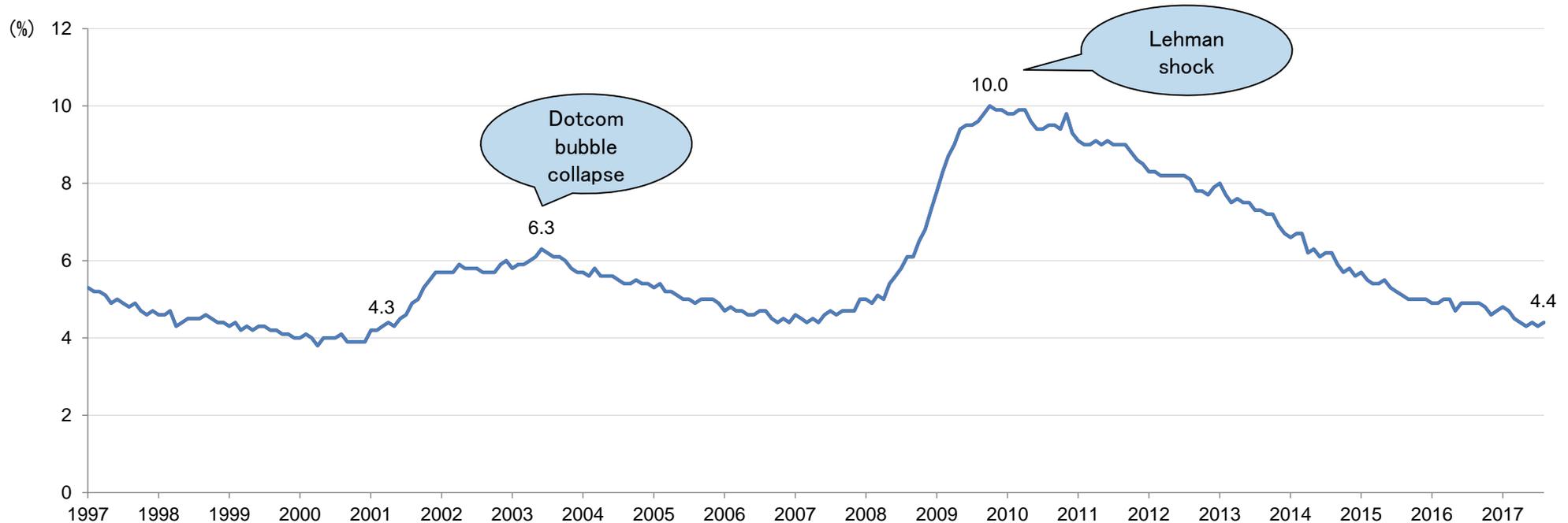


## 1. Macro Economy

The unemployment rate recorded in June 2017 was 4.3%, which was the lowest in the past 20 years.

- The rate of unemployment is suddenly increased after collapsing the Dotcom bubble and the Lehman shock. After October 2009 it turns to decrease.
- In August 2017, the unemployment rate is 4.4 % and the number of unemployed is 7.1 million.

Unemployment rate (1997 to 2017)

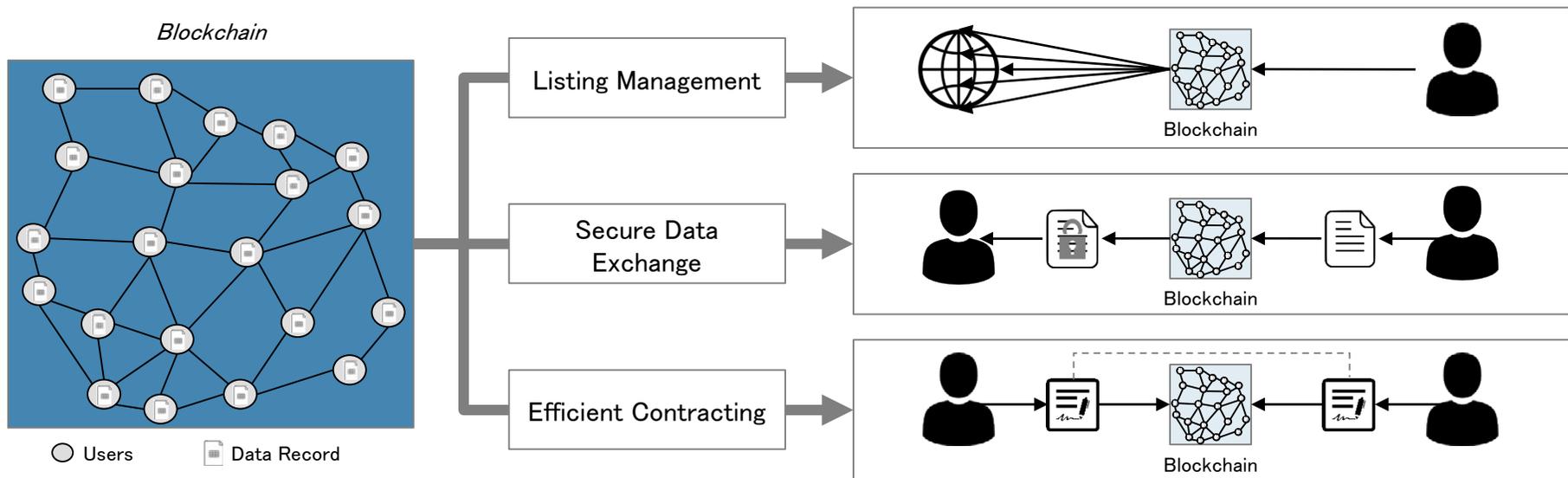


## 1. Macro Economy

# The US market has been slowly exploring blockchain technology for commercial real estate applications.

- Through blockchain technology, all involved parties can have a copy of the original data record, allowing near-real time data record access and updates, safe from tampering.
- The US commercial real estate market has a particular interest in the following benefits:
  - Listing Management – To effectively manage real estate listing data of any property in the world
  - Secure Data Exchange – To securely manage data of tenant, owners, etc.
  - Efficient Contracting – To speed up exchange of data, contract, etc.

### Blockchain in Real Estate Overview

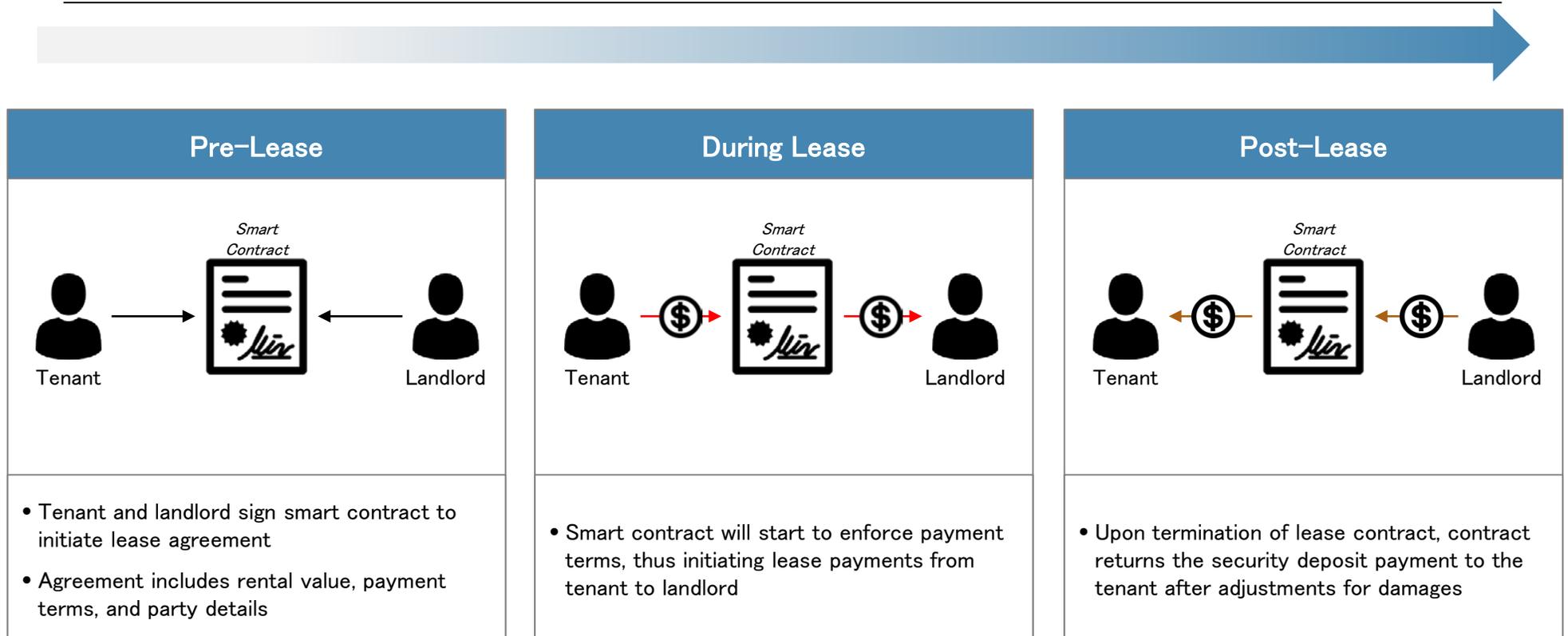


# 1. Macro Economy

## Through smart contracts, blockchain technology can revolutionize how commercial real estate market parties contract.

- Smart contracts are applications to securely execute contractual terms between involved parties through blockchain technology.

### Smart Contract Timeline Overview



## USA

Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

1 Macro Economy

2 Real Estate Investment Market

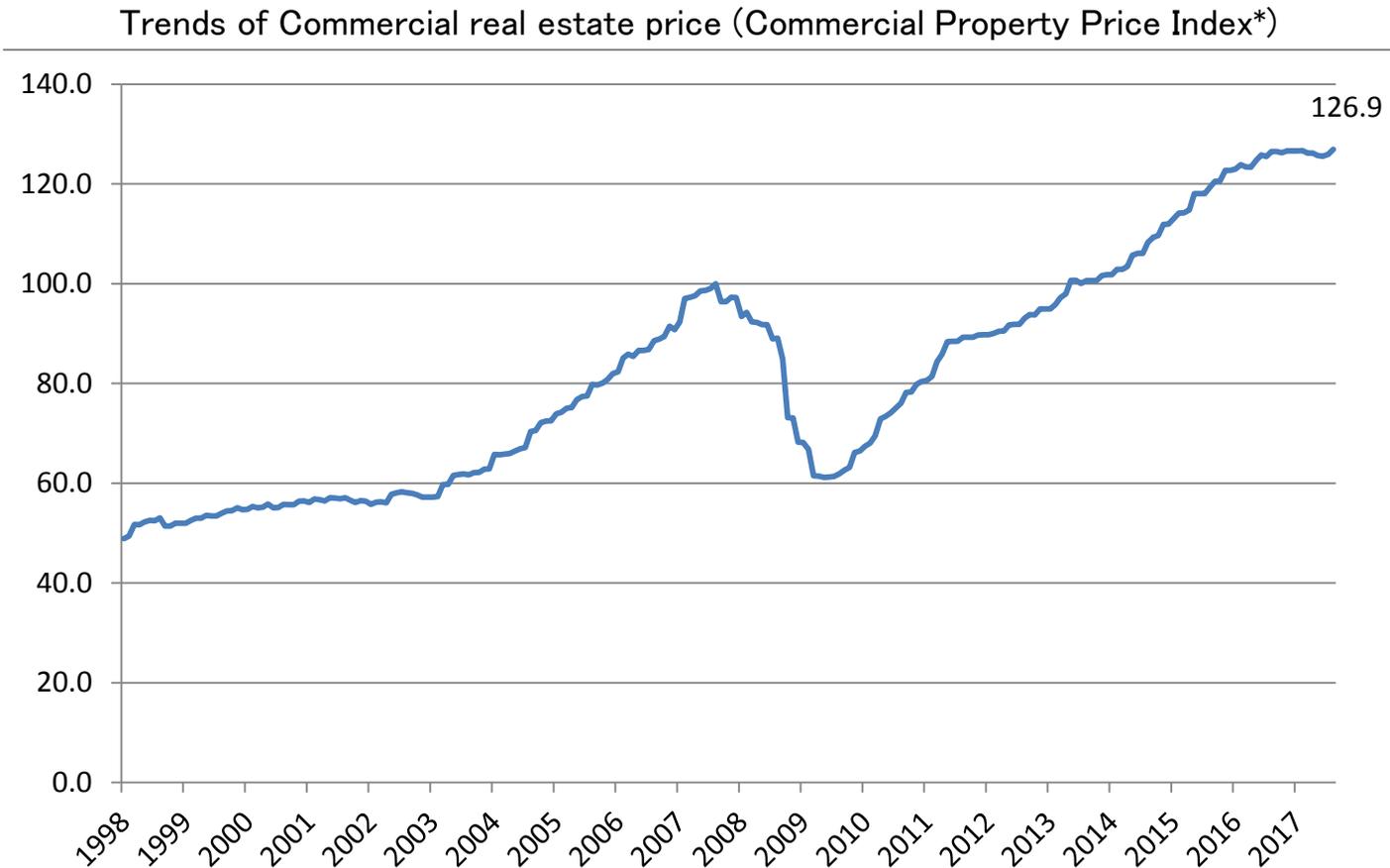
3 Residential Market

4 Office Market

5 Hotel Market

## 2. Real Estate Investment Market

The most recent commercial real estate price is far larger than the previous highest of 2007. Although the price continued to increase after the Lehman shock, it is at peak in 2016 second half.



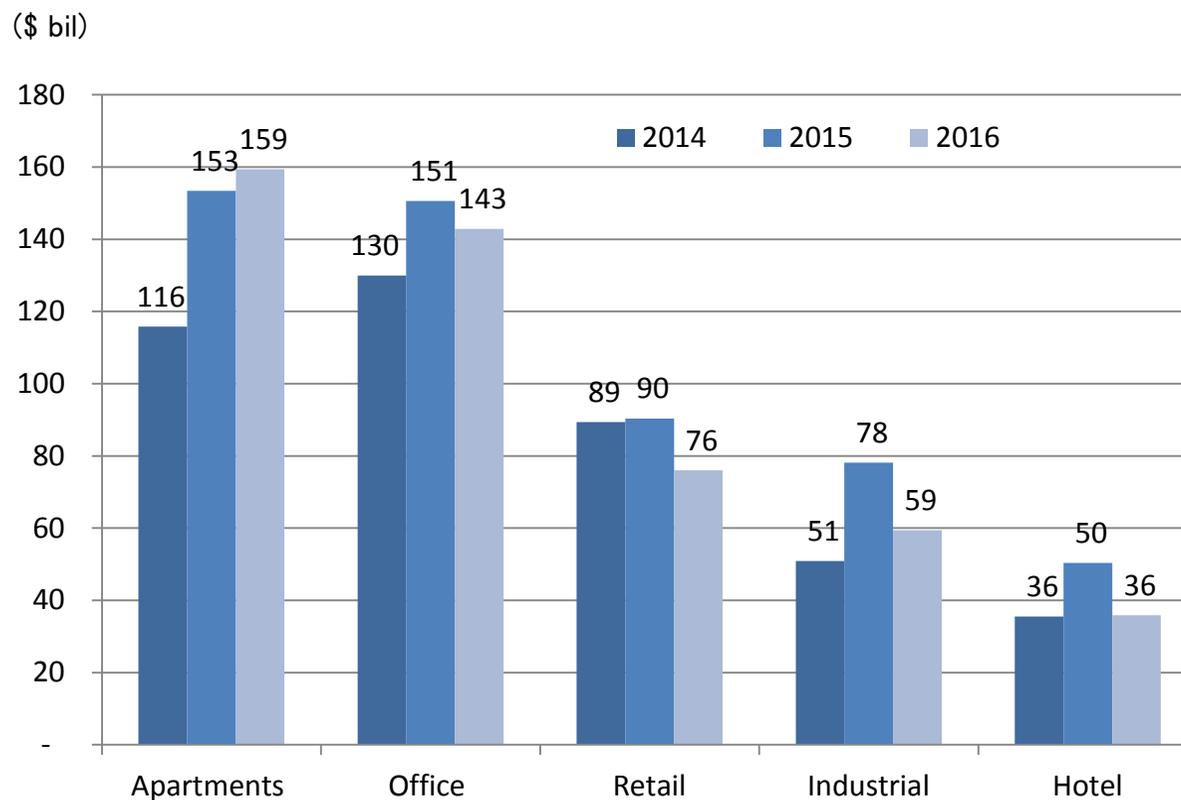
Source) Green Street Advisors

\*Mainly, the prime commercial properties (real estate) were targeted.

## 2. Real Estate Investment Market

The total amount of transactions was increased in all sectors between 2014 and 2015. In 2016, only the number of apartments was increased, the other real estates were declined.

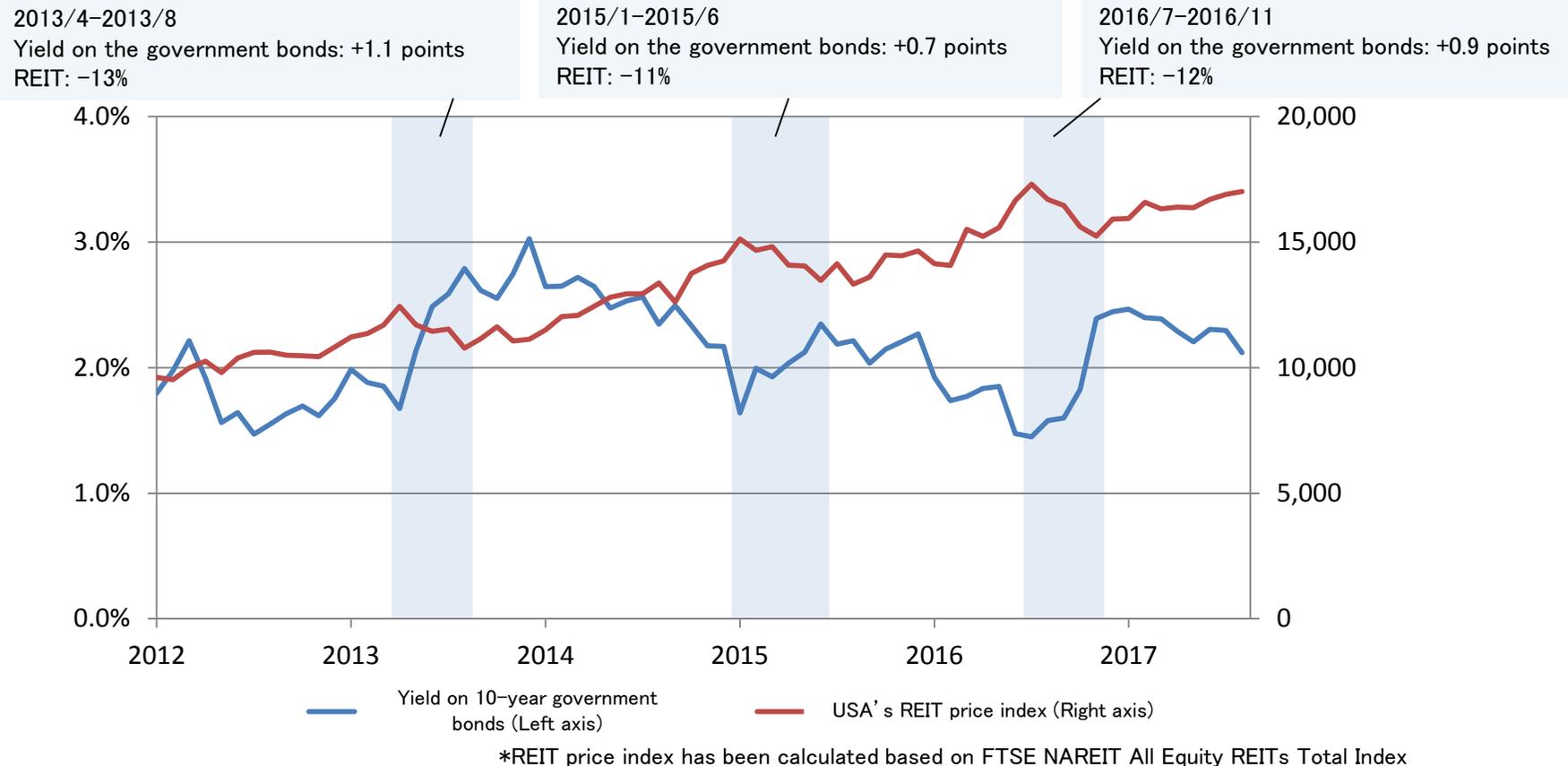
Trends in Transaction amount of commercial real estates (including transactions equal to or more than 2.5 billion)



## 2. Real Estate Investment Market

If the future interest rates will rise, the REIT price would fall in the short term. Then, it will rise in the medium and long term.

Trends in Cap rate of main sectors



## USA

Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

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Macro Economy

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Hotel Market

### 3. Residential market – (1) Overview

Regarding the residential market of the USA, houses which were built for sale purpose accounted for 50%, custom houses accounted for 15% and rental apartments that have increasingly become common in recent years accounted for 30%.

#### Trends of Residential market structure in Japan

Unit: 10,000 houses	Japan	Unit: 10,000 houses	US
Number of new housing starts	96.7 (100%)	Starts by Purpose	117.4 (100%)
Owner-occupied houses (custom houses)	29.2 (30%)	Owner built <sup>*2</sup>	4.9 (4%)
Sale in lots	25.1 (26%)	Contractor built <sup>*3</sup>	11.6 (10%)
Detached houses	13.4 (14%)	Built for sale	60.7 (52%)
Mansions	11.7 (12%)	Single-family Units	57.9 (49%)
Houses on lease (including those received as allowance)	42.4 (44%)	Building with 2 units or more	2.8 (2%)
Existing housing stock	16.9 (17%)	Built for rent	40.2 (34%)
		Used house sales	549 (468%)

\*1 Existing housing stock data pertains to FY 2013

\*2 Houses built by the landlords for residing purpose as a benefactor and field supervisor. There are three types of construction methods: 1) The landlord takes the responsibility for partial construction and asks a local contractor for the remaining construction, 2) The landlord gives the task of entire construction to a local contractor, 3) The landlord undertakes the entire construction work (The basic responsibility of completing the construction lies with the landlord. When the landlords construct on their own, partial work of construction is given to a local contractor.)

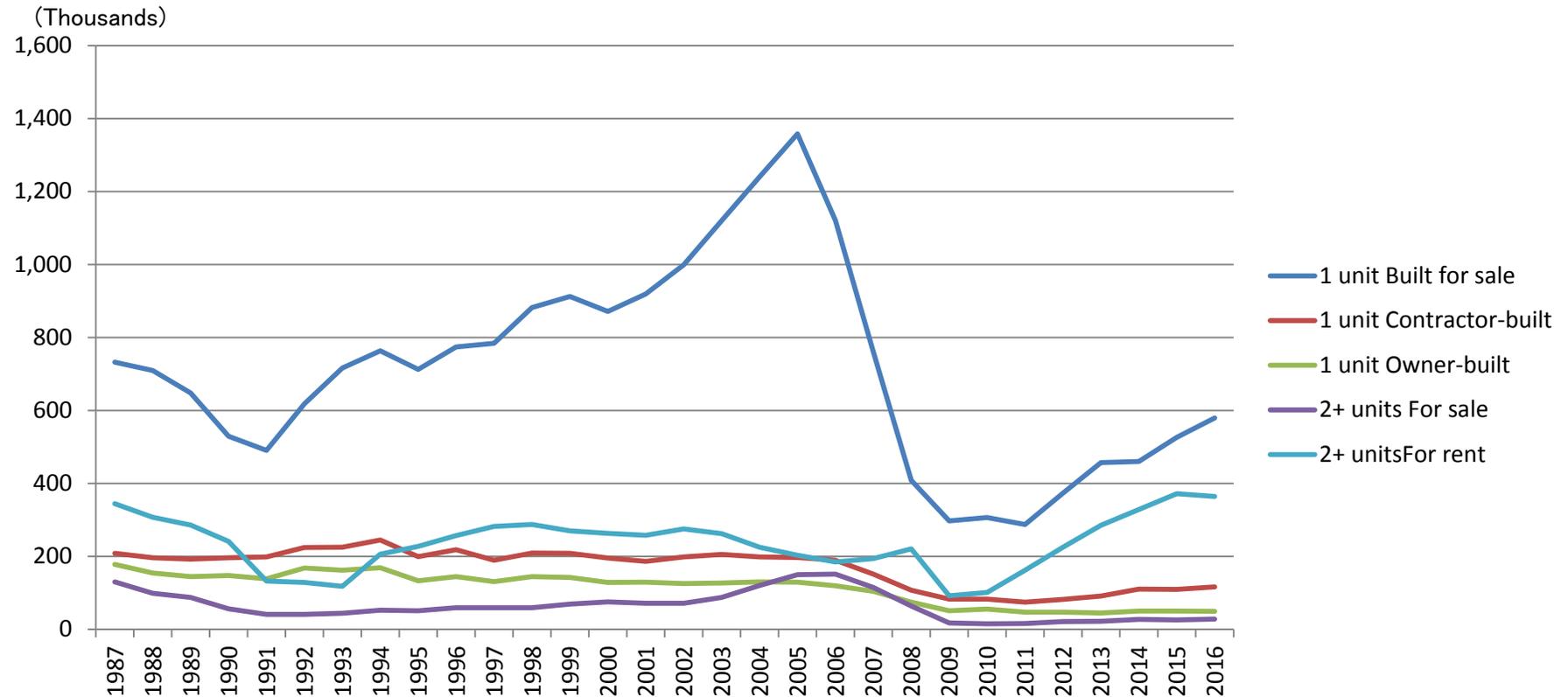
\*3 Houses built by the landlords for residing purpose as a benefactor. The local contractor is hired as the field supervisor and landlord does not construct at all. These also include houses used for rental purpose (example: temporary house of a clergyman). (The basic responsibility of completing the construction lies with the local contractor.)

### 3. Residential market - (1) Overview

The number of detached housing construction sharply declined after reaching its peak in 2005. However, after hitting its lowest level in 2011, the situation became improved. In parallel, rental housing construction has also been growing.

■ In 2016, rental housing constructions were less than the preceding year.

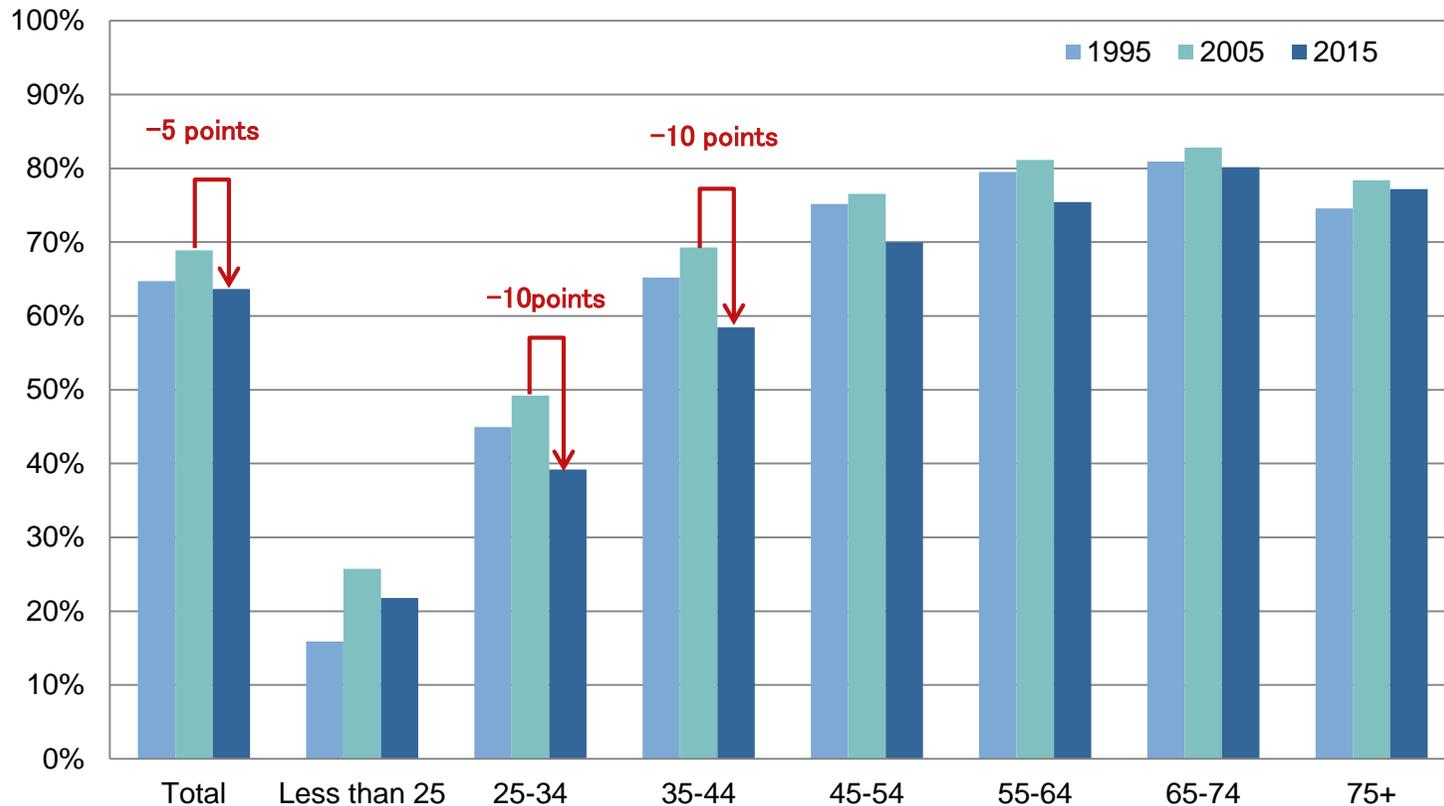
Trends of New housing constructions



### 3. Residential market – (1) Overview

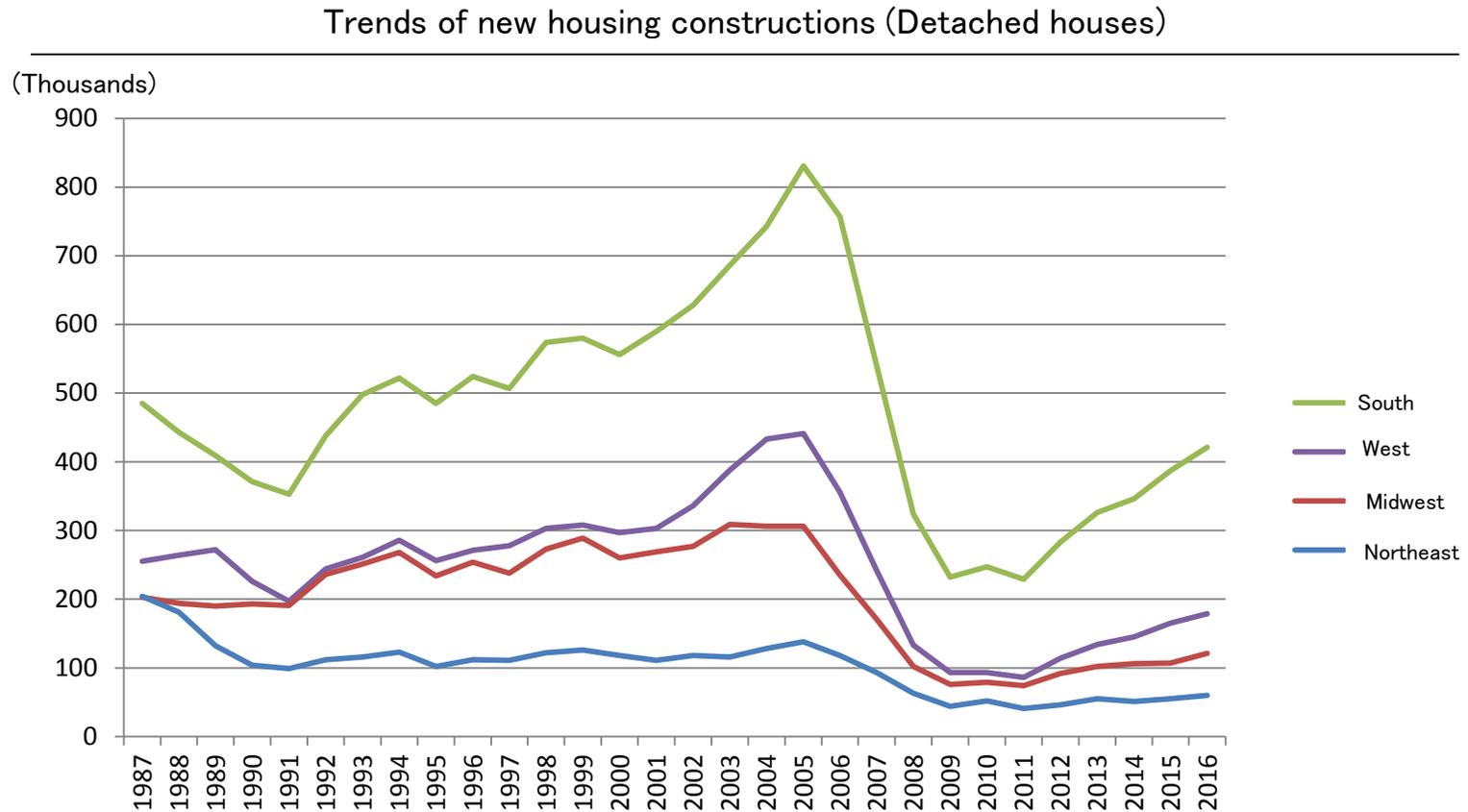
For 10 years after 2005, the rate of house-owners who are the 25–44 year-old people had significantly declined. With the decrease of houses owned by the young generation, the demand for rental houses rapidly increased.

Age-wise housing acquisition rate



### 3. Residential market – (2) Detached housing

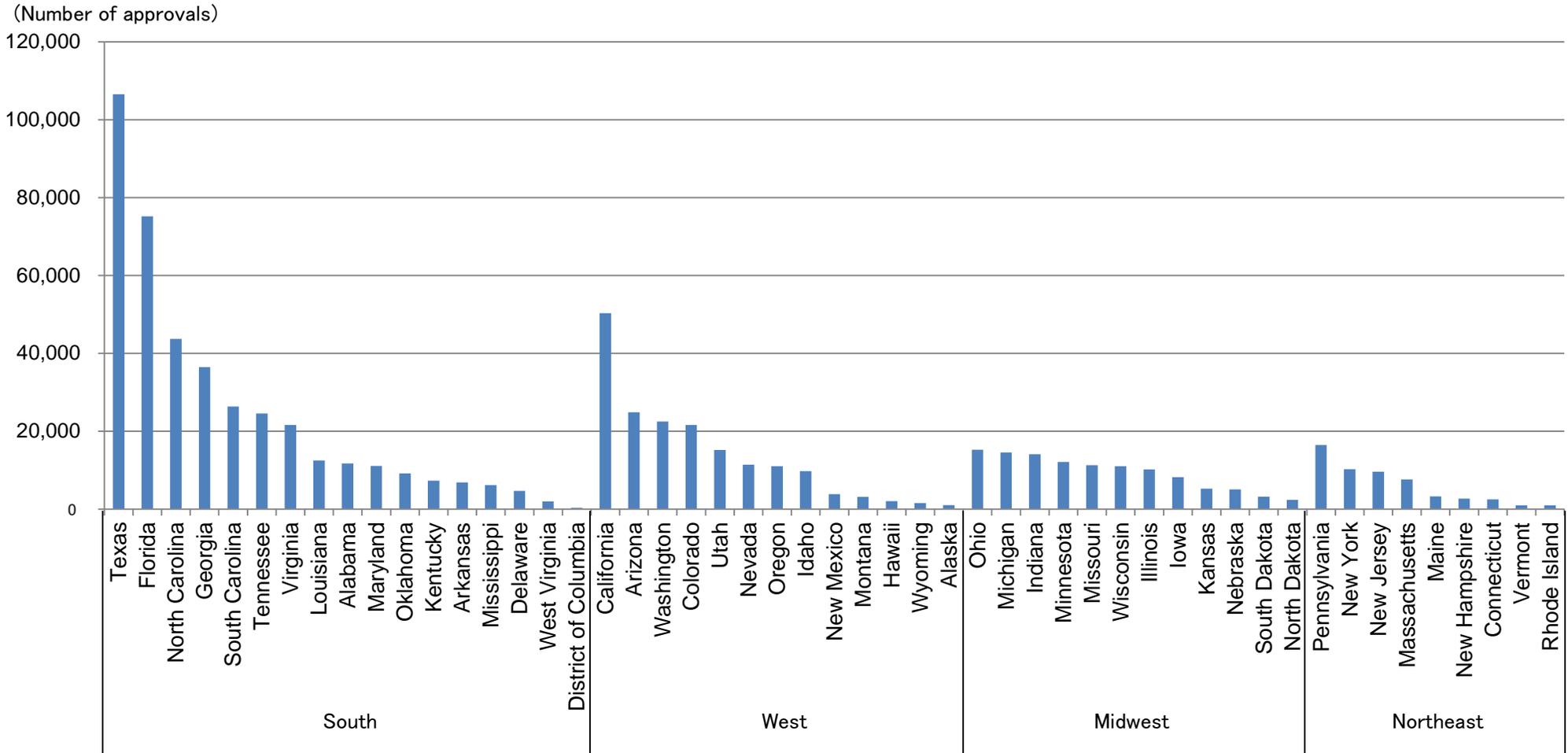
After the Lehman shock, the southern and western regions started recovering and restored to their status as in the 1990s. However, the midwest and north-eastern regions remained the same.



### 3. Residential market - (2) Detached housing

Texas and Florida in the southern region stood out with the maximum number of approvals for the construction of detached houses. In looking at the other regions, California had more than 50,000 approvals, but the rest had 30,000 or less.

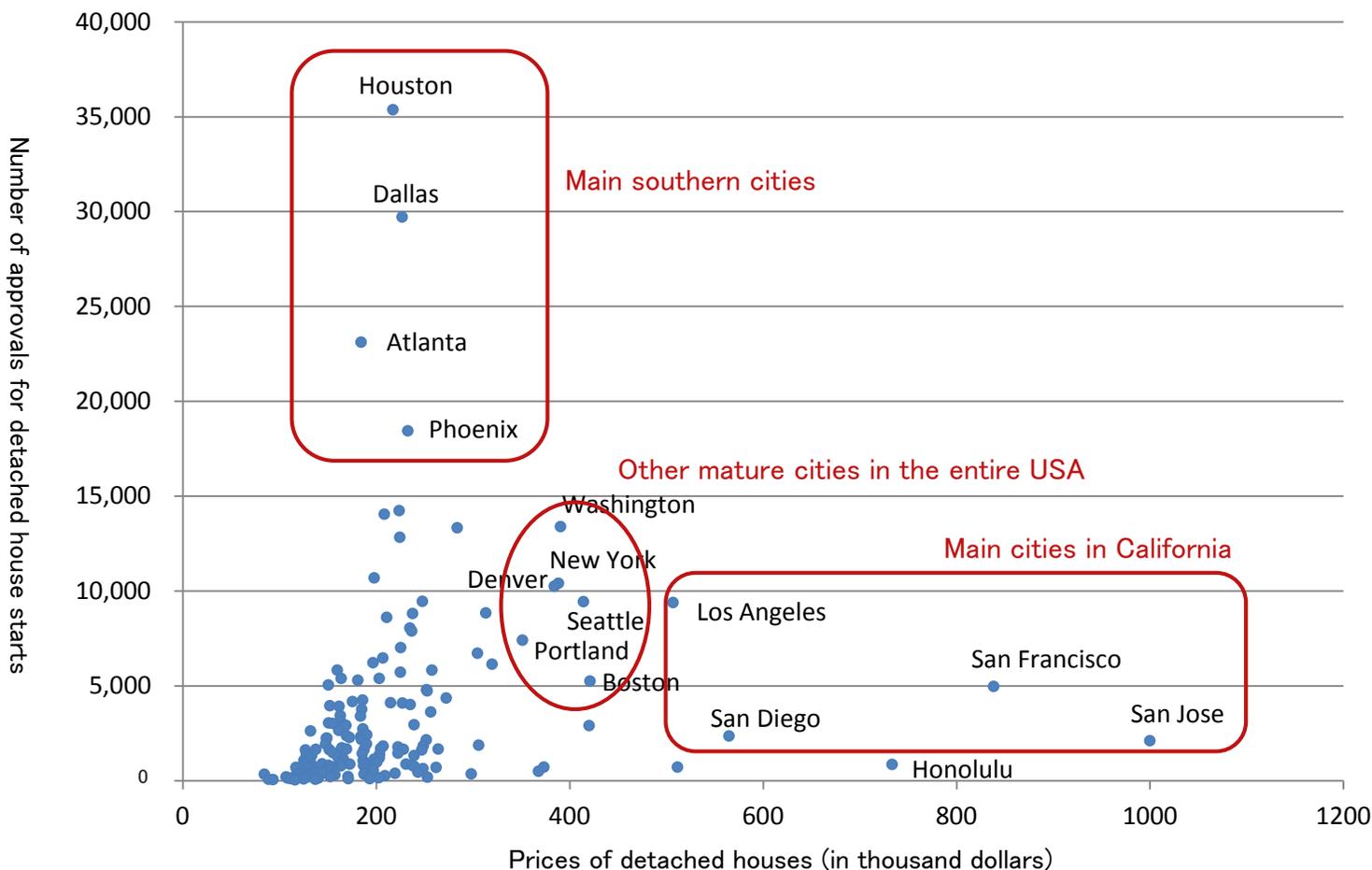
State-wise number of Approvals for new housing constructions (Detached houses, 2016)



### 3. Residential market – (2) Detached housing

In the metropolitan areas in south, such as Texas, have a great number of new housing constructions, while cities with high residential prices are concentrated in California.

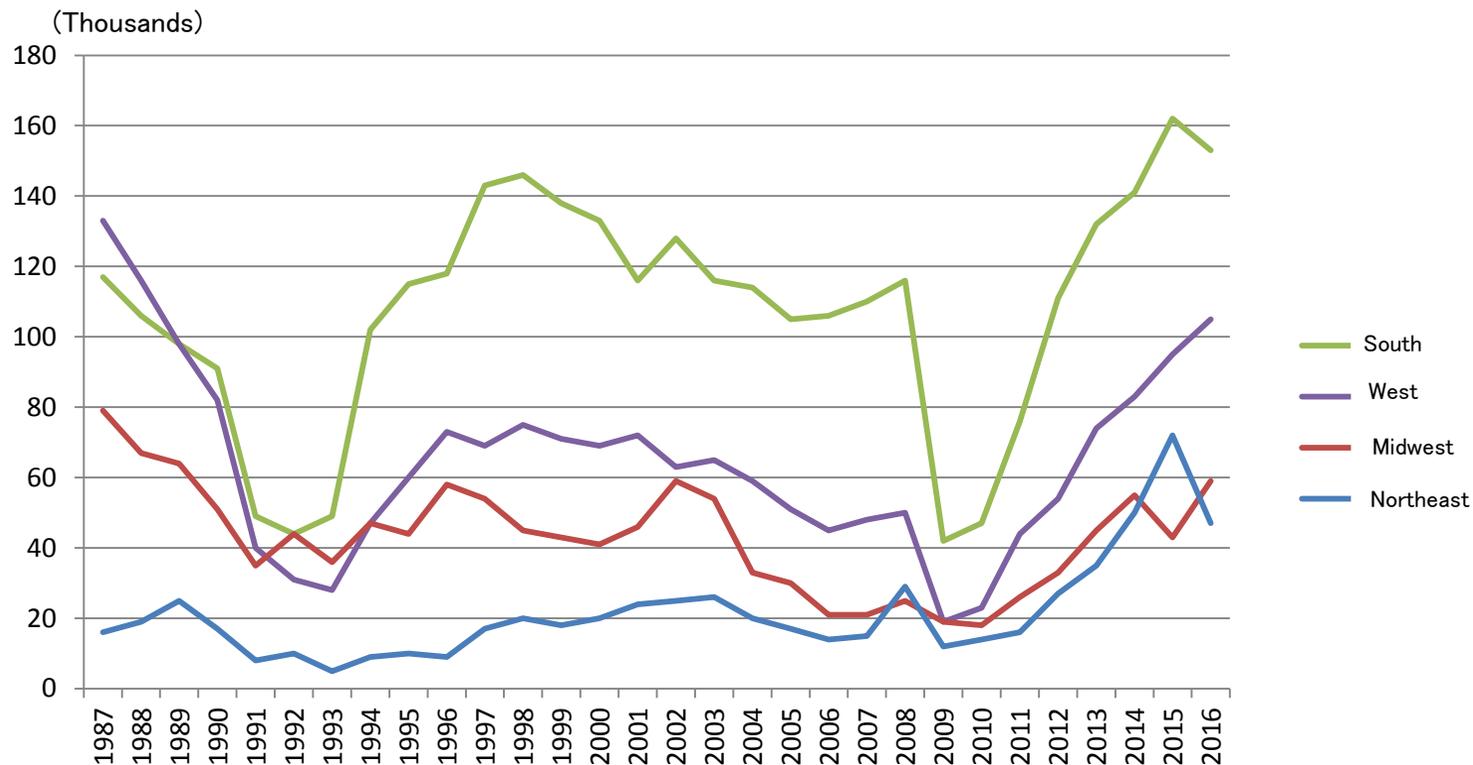
City-wise Residential prices and Approvals for new housing constructions (2016)



### 3. Residential market – (2) Detached housing

The number of rental housing constructions was suddenly increasing after 2009, but the number constructions was decreasing after 2015, except for the western region.

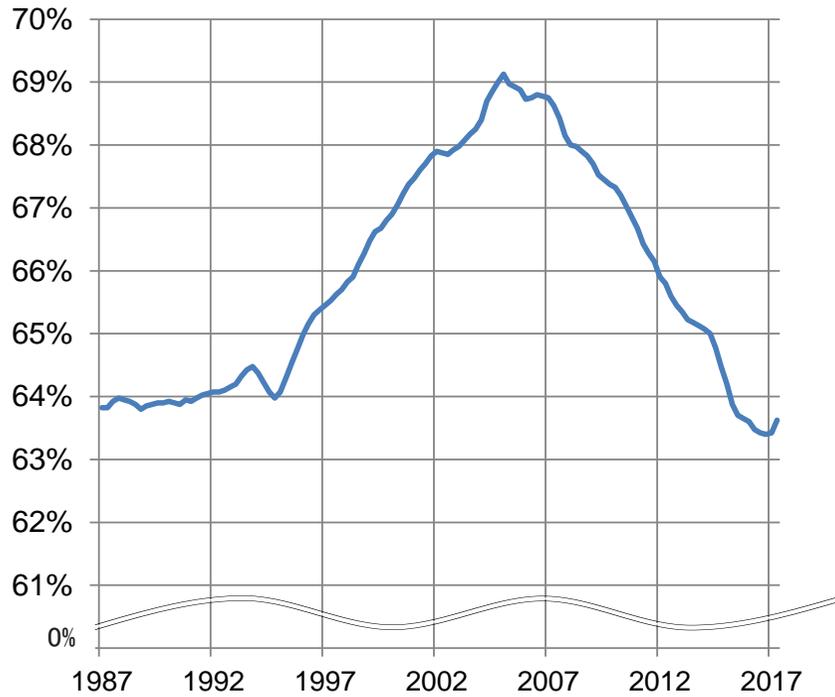
Trends in number of new housing constructions (Rental housing)



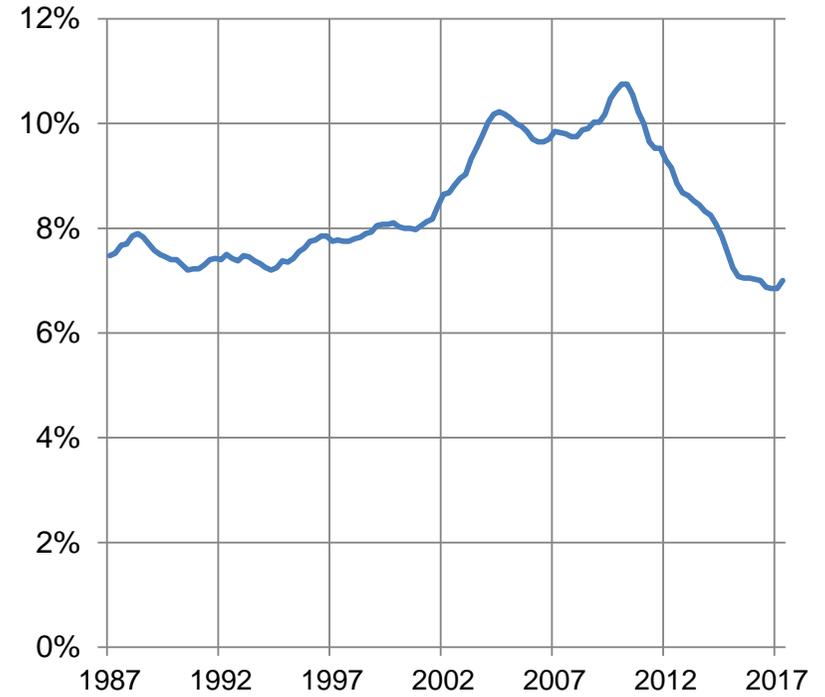
### 3. Residential market – (3) Rental housing

The rate of owned houses and vacant houses continued to decrease together, but this fall came to the end in 2016.

Trends in percentage of owner-occupied houses



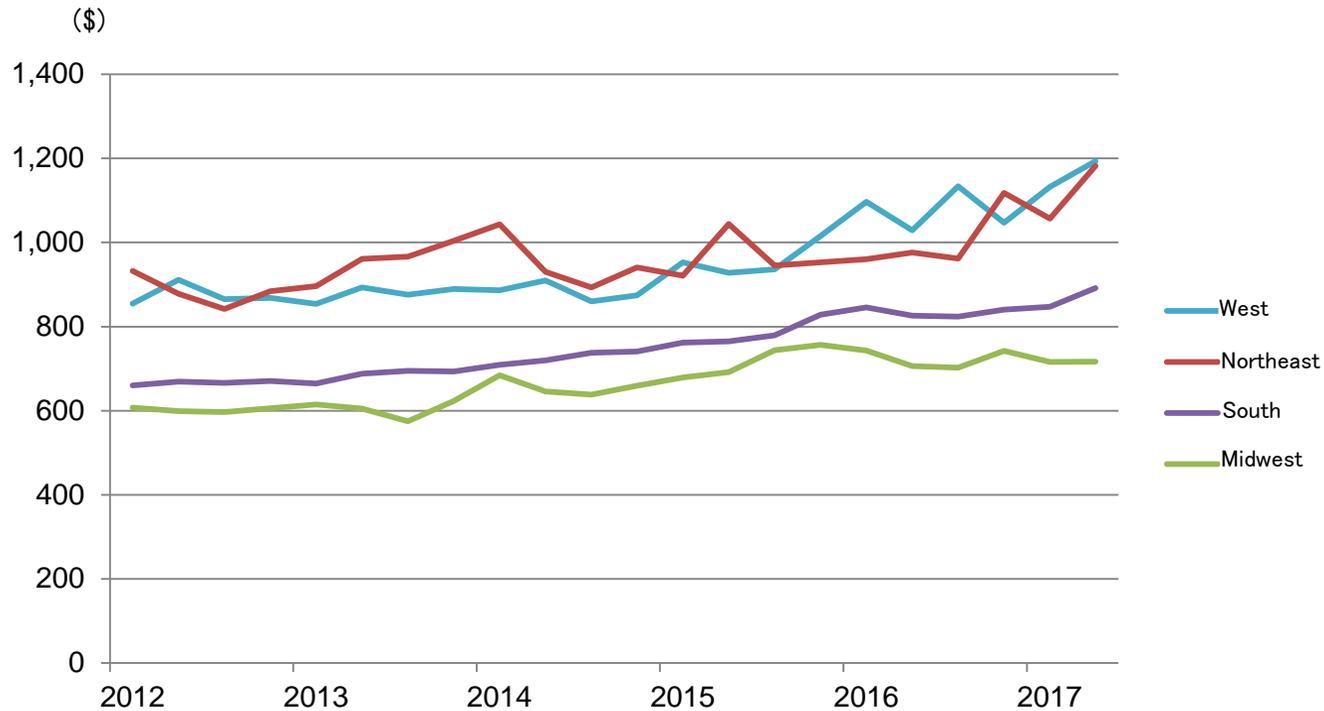
Trends in Percentage of vacant houses



### 3. Residential market – (3) Rental housing

There is no any significant change in the trends of most recent rents.

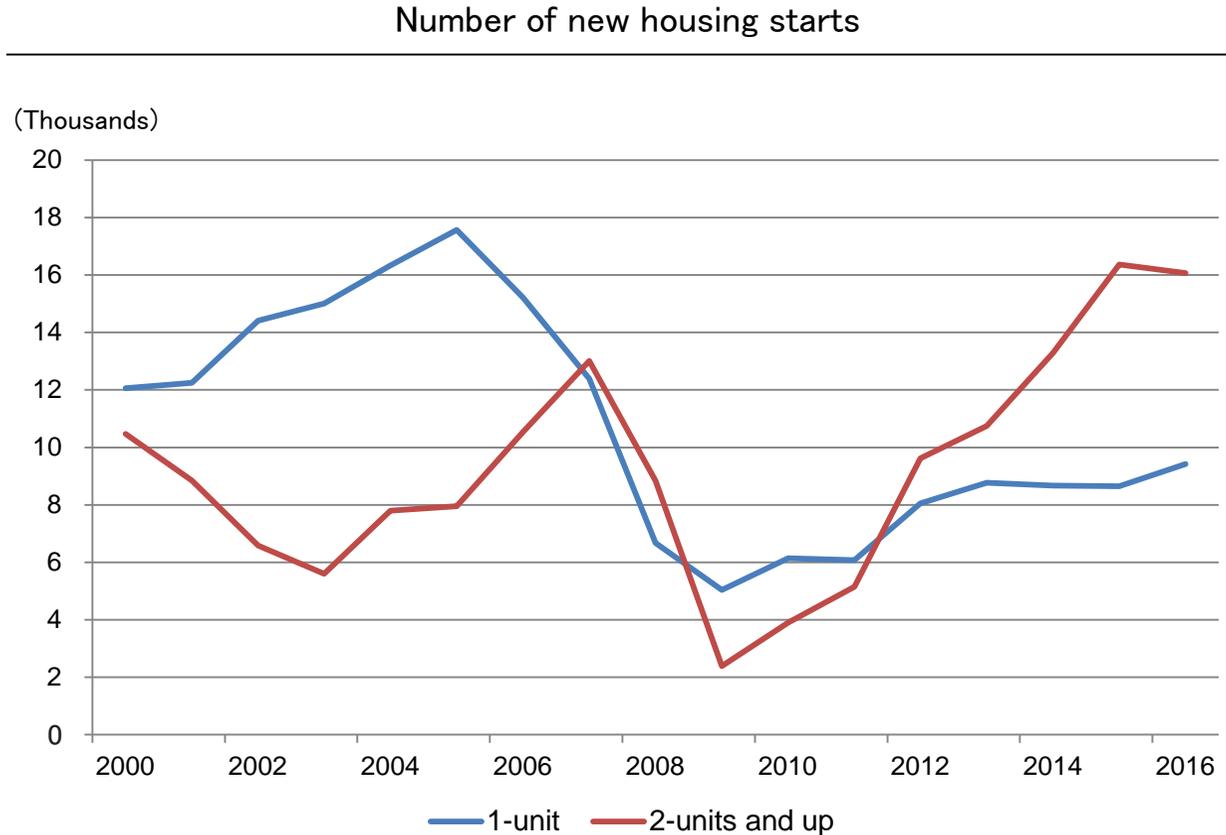
Trends of region-wise rent (Median)



### 3. Residential market – (4) Residential market of Seattle

**After the Lehman shock, many large-scale apartments were constructed in the Seattle metropolitan area (Seattle-Tacoma-Bellevue MSA).**

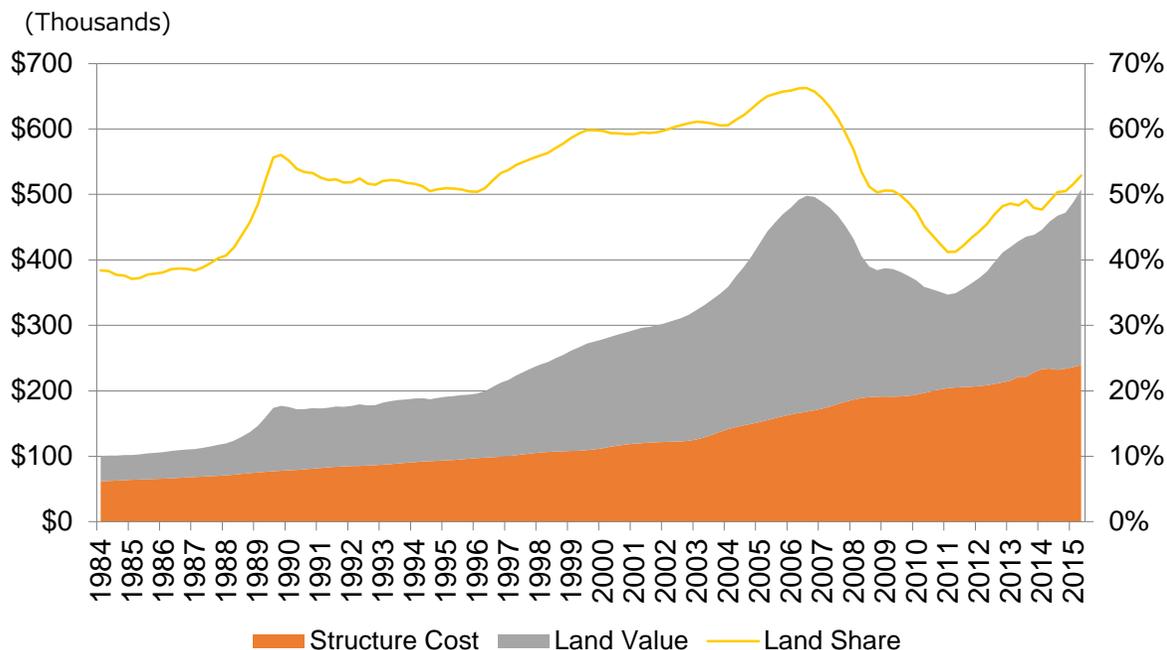
■ The Seattle metropolitan area includes 3 counties – Snohomish, King and Pierce.



### 3. Residential market – (4) Residential market of Seattle

The average price of detached houses is about \$500,000. With land prices, the cost of construction is also sharply risen.

Trends of Land prices and Cost of construction



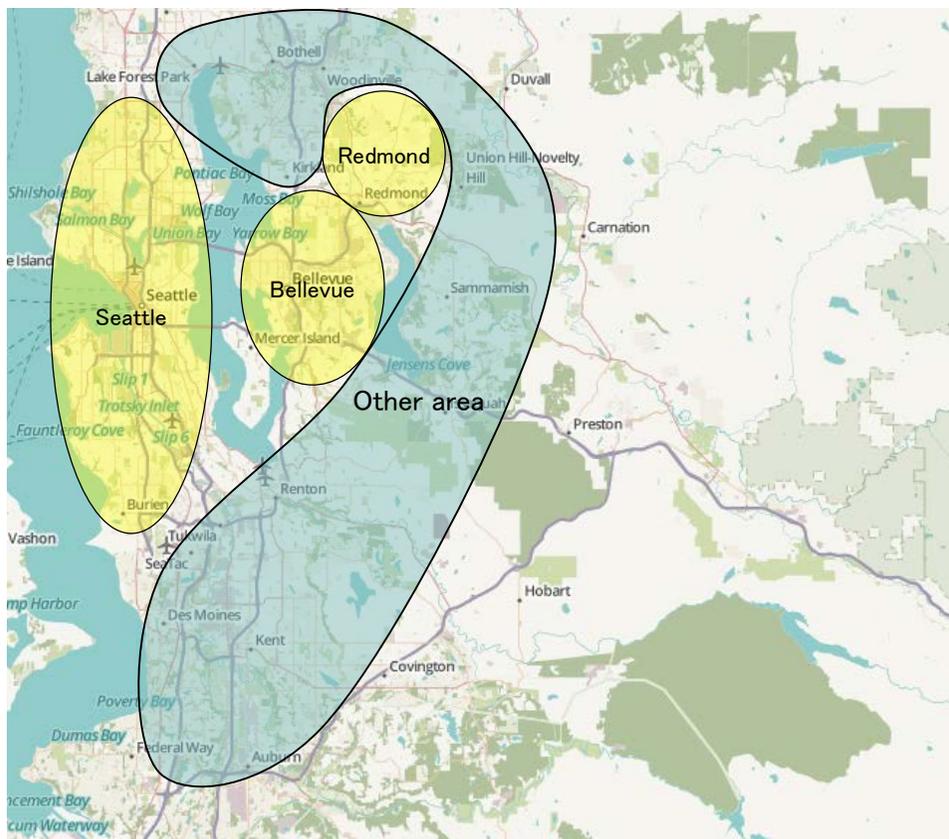
*Year	Home Value	Structure Cost	Land Value	Land
2000	\$278,695	\$112,257	\$166,438	59.7%
2001	\$292,826	\$119,354	\$173,471	59.2%
2002	\$303,519	\$121,947	\$181,572	59.8%
2003	\$323,773	\$125,821	\$197,952	61.1%
2004	\$359,056	\$141,585	\$217,471	60.6%
2005	\$424,912	\$152,219	\$272,692	64.2%
2006	\$479,951	\$163,874	\$316,077	65.9%
2007	\$488,499	\$172,756	\$315,744	64.6%
2008	\$431,855	\$186,623	\$245,231	56.8%
2009	\$387,317	\$191,347	\$195,970	50.6%
2010	\$368,625	\$194,053	\$174,572	47.4%
2011	\$346,949	\$204,023	\$142,926	41.2%
2012	\$372,227	\$207,086	\$165,142	44.4%
2013	\$419,730	\$215,593	\$204,137	48.6%
2014	\$446,107	\$233,255	\$212,852	47.7%
2015	\$488,054	\$236,426	\$251,628	51.6%

\*Q4 data

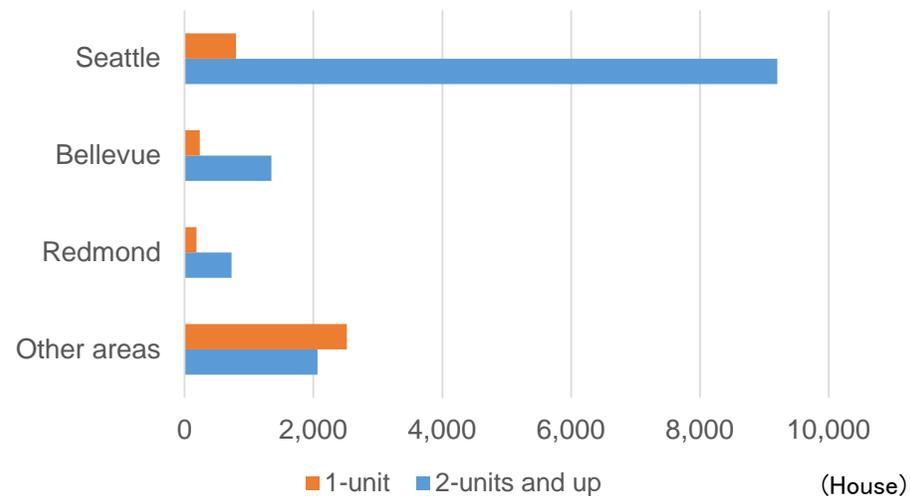
### 3. Residential market – (4) Residential market of Seattle

Regarding the Seattle’s local residential market, more than 50% of the houses are apartments. In the suburbs, the number of detached houses and apartments are almost same.

Figure showing the Seattle city and the surrounding areas



Number of approvals for housing starts in Areas surrounding the Seattle city (King County) (2016)

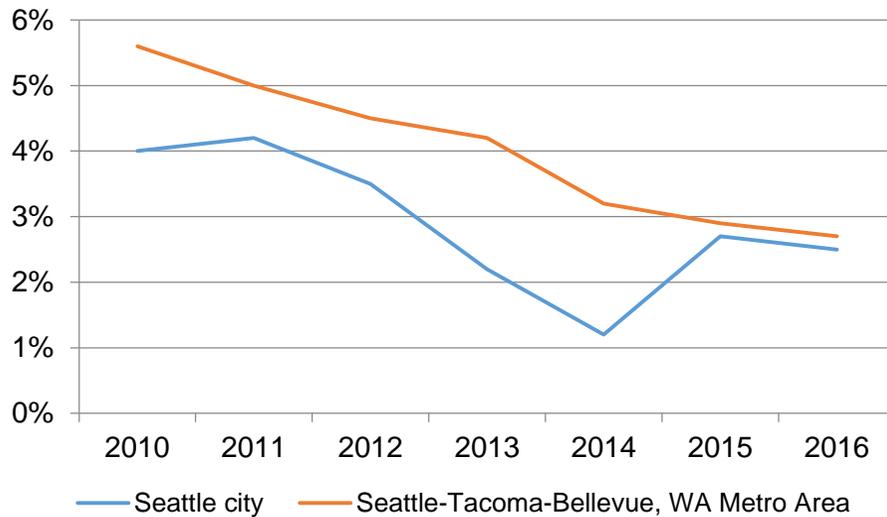


Other areas refer to the total number of cities in the King Country.

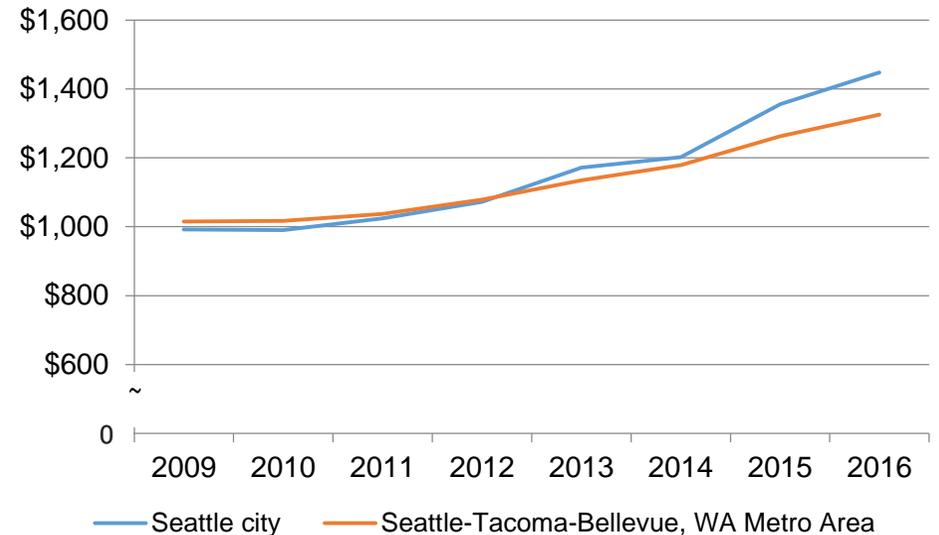
### 3. Residential market – (4) Residential market of Seattle

The vacancy rate of rental houses is rapidly decreasing, which is less than 3% in the all metropolitan areas. In the post-2014, the standard rent of Seattle was significantly higher than the average rent of metropolitan areas.

Trends of Vacancy rate



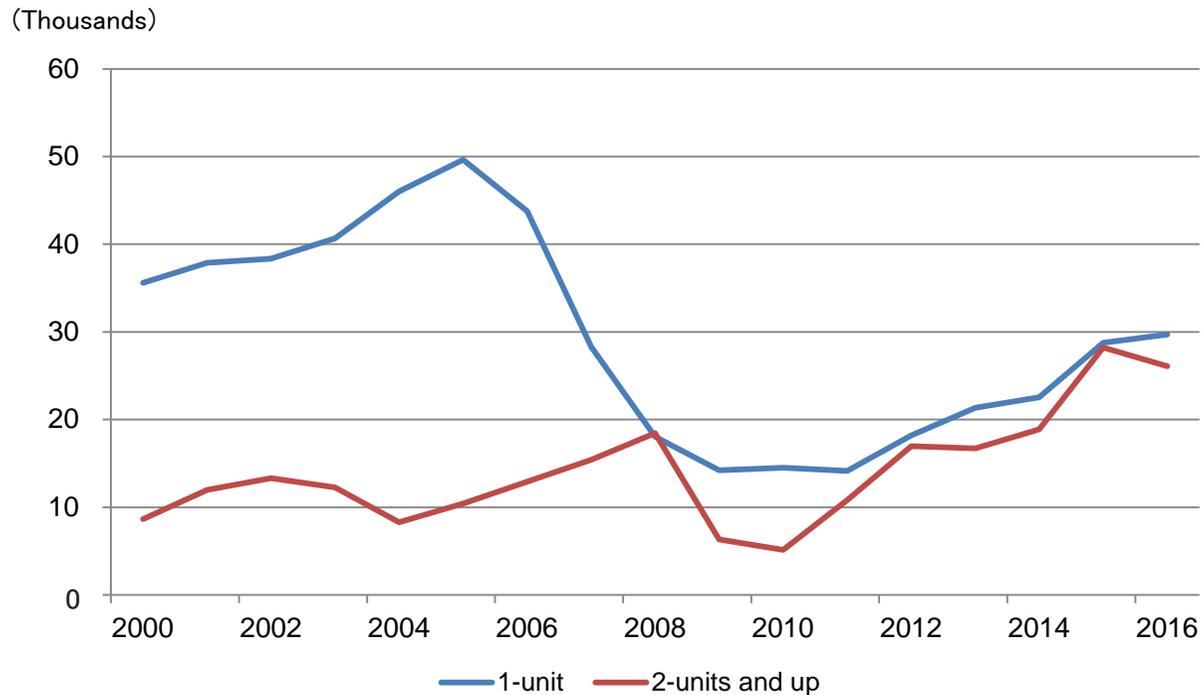
Trends of Rent (Median)



### 3. Residential market – (5) Residential market of Dallas

The number of new housing constructions (including both detached houses and apartments) in the Dallas metropolitan area (Dallas–Fort Worth–Arlington MSA) showed recovery with more than 25,000 constructions.

Trends in number of new housing constructions (Rental housing)

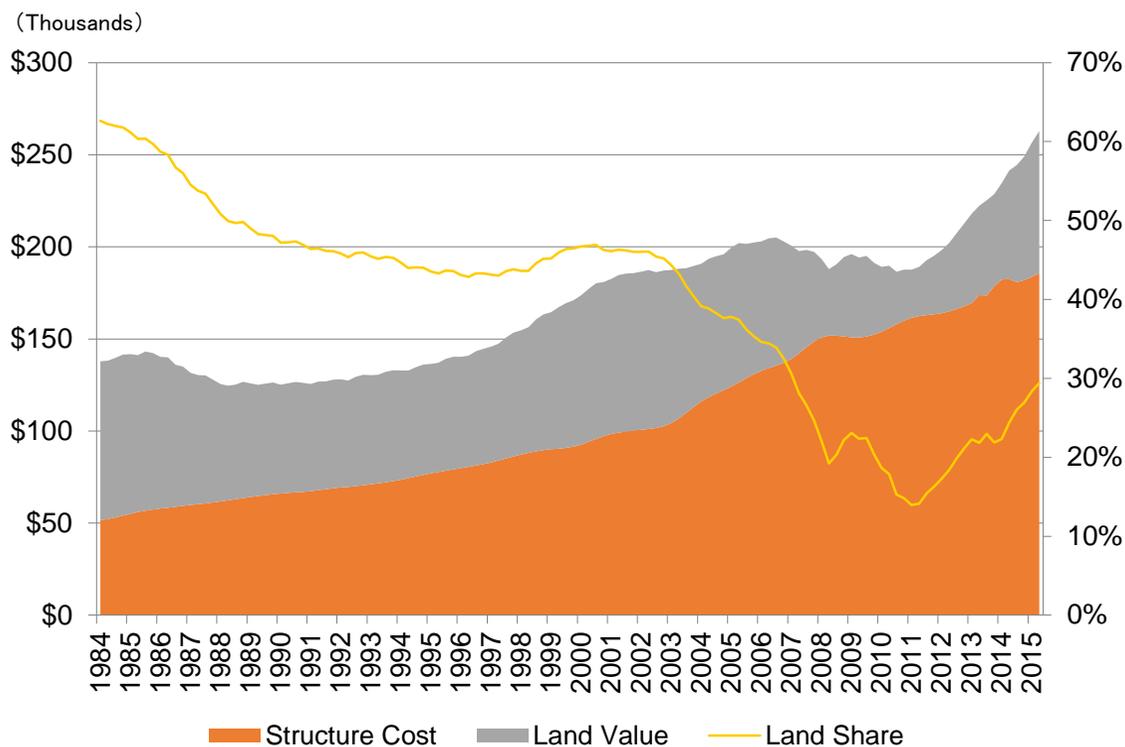


### 3. Residential market – (5) Residential market of Dallas

The average price of detached houses is \$250,000.

The cost of construction is dramatically rising, accounting for 70% of the home value.

Trends of Land prices and Cost of construction



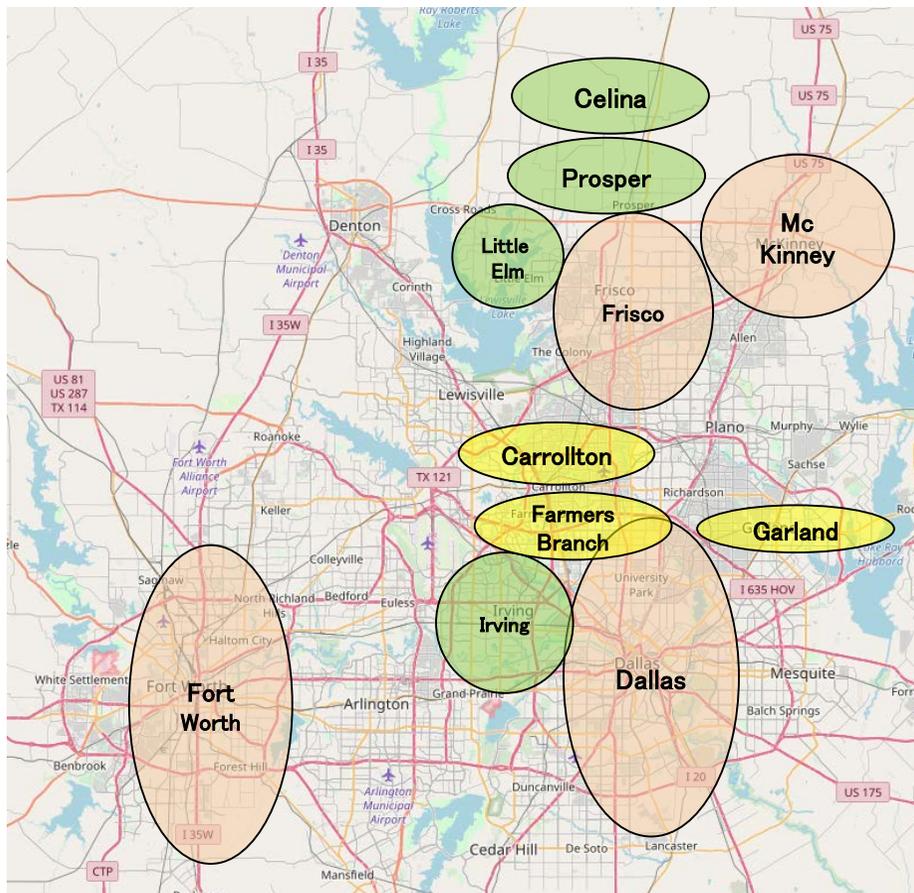
*Year	Home Value	Structure Cost	Land Value	Land Share
2000	\$173,678	\$92,517	\$81,161	46.7%
2001	\$182,559	\$98,406	\$84,154	46.1%
2002	\$186,525	\$100,648	\$85,877	46.0%
2003	\$187,431	\$104,288	\$83,143	44.4%
2004	\$190,797	\$116,052	\$74,745	39.2%
2005	\$199,596	\$124,130	\$75,466	37.8%
2006	\$202,951	\$132,730	\$70,221	34.6%
2007	\$200,595	\$139,192	\$61,403	30.6%
2008	\$193,454	\$150,854	\$42,599	22.0%
2009	\$196,089	\$150,857	\$45,232	23.1%
2010	\$189,138	\$153,876	\$35,263	18.6%
2011	\$187,611	\$161,438	\$26,173	14.0%
2012	\$198,238	\$163,952	\$34,286	17.3%
2013	\$218,014	\$169,417	\$48,597	22.3%
2014	\$234,604	\$182,252	\$52,352	22.3%
2015	\$256,583	\$236,426	\$72,860	28.4%

\*Q4 data

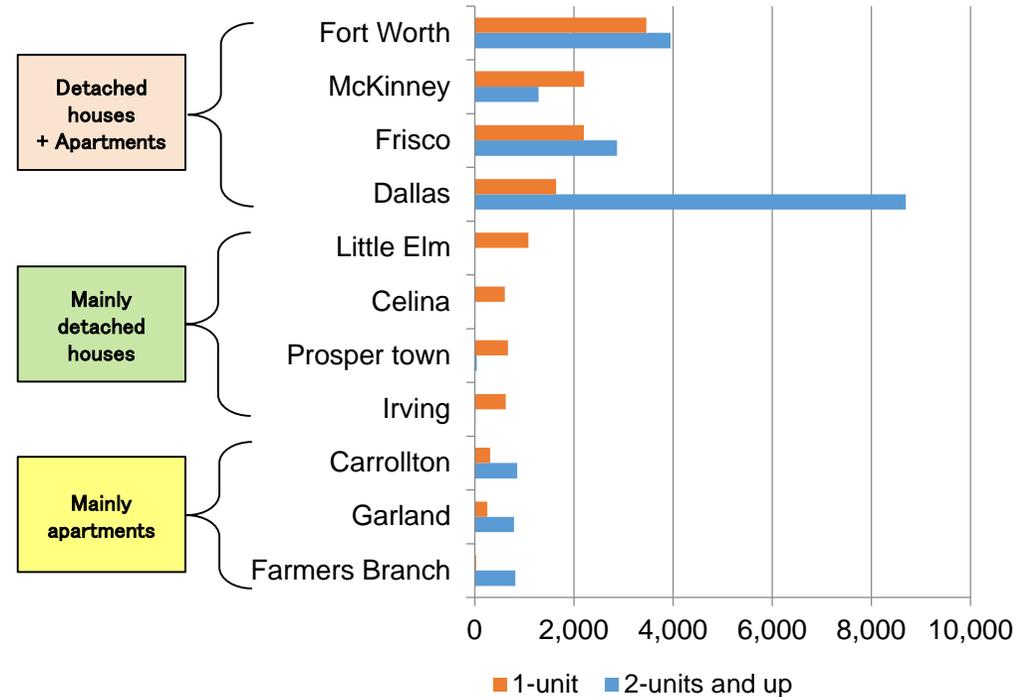
### 3. Residential market – (5) Residential market of Dallas

In the cities, such as Dallas, Fort Worth, Frisco and McKinney, a large number of detached houses and apartments are constructed. In particular, the surrounding areas of Dallas have mainly apartments, whereas the northern region mainly has detached houses.

Main cities in the suburbs of Dallas



Number of approvals for housing starts in main cities (2016)



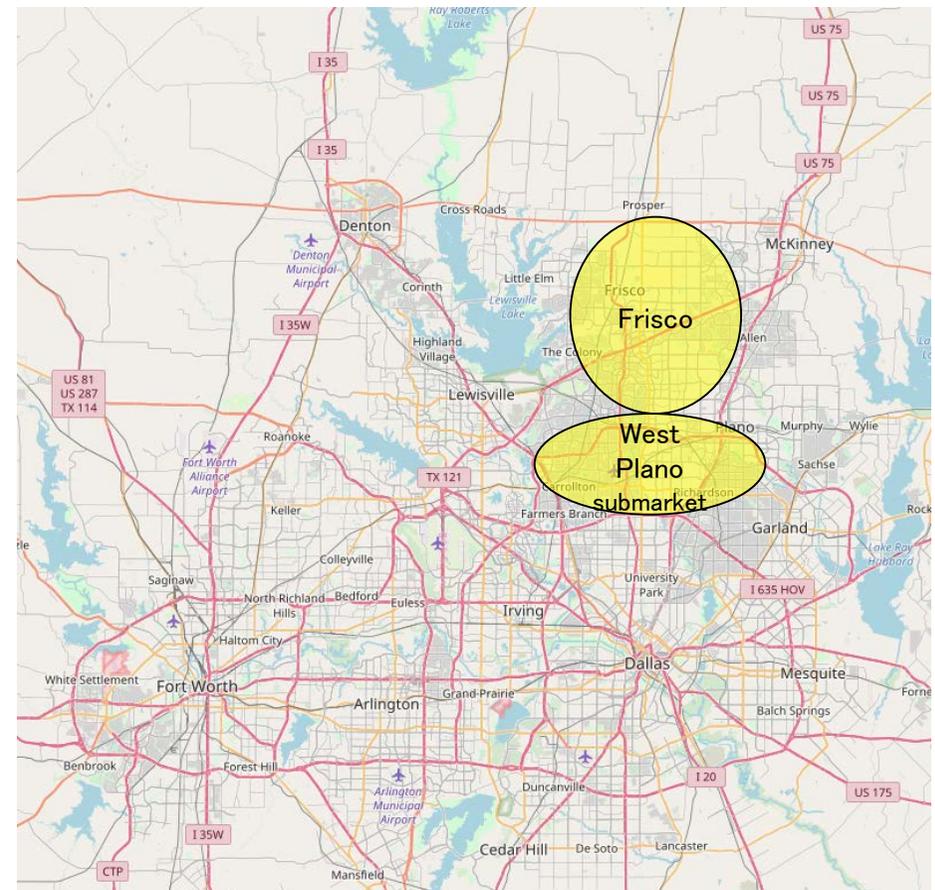
### 3. Residential market – (5) Residential market of Dallas

In the northern part of Dallas, there are successive expansions and relocations of offices of large companies. The increase in employment depends on the increase in population.

Large-scale offices recently relocated to areas surrounding the  
Fresco city

Company name	Service	Year of completion	Number of employees
Capital One Finance	Headquarter	2017	5,500
JP Morgan Chase & Co		Under construction	6,000
NTT Data	North America HQ	2017	2,250

Location of each city



Source: Plano Economic Development

## USA

Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

1

Macro Economy

2

Real Estate Investment Market

3

Residential Market

4

Office Market

5

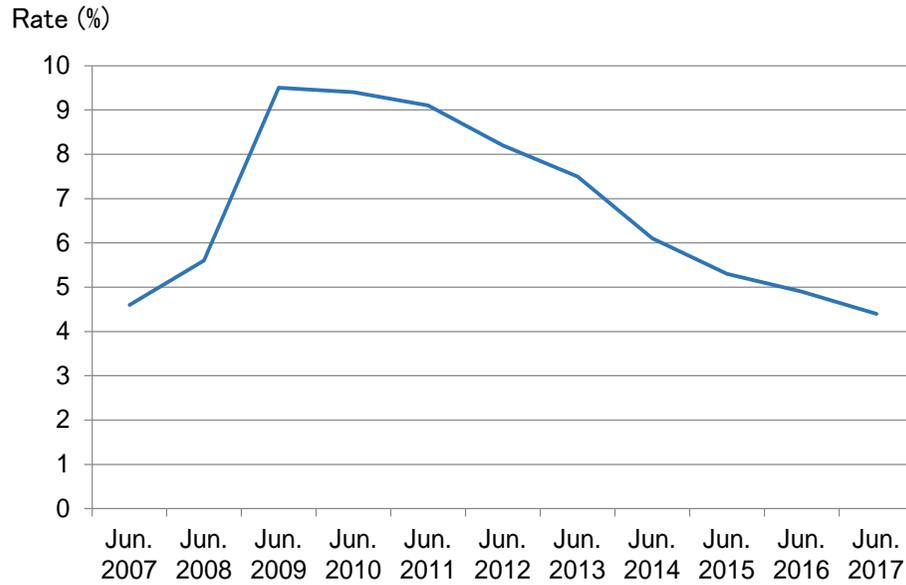
Hotel Market

## 4. Office market

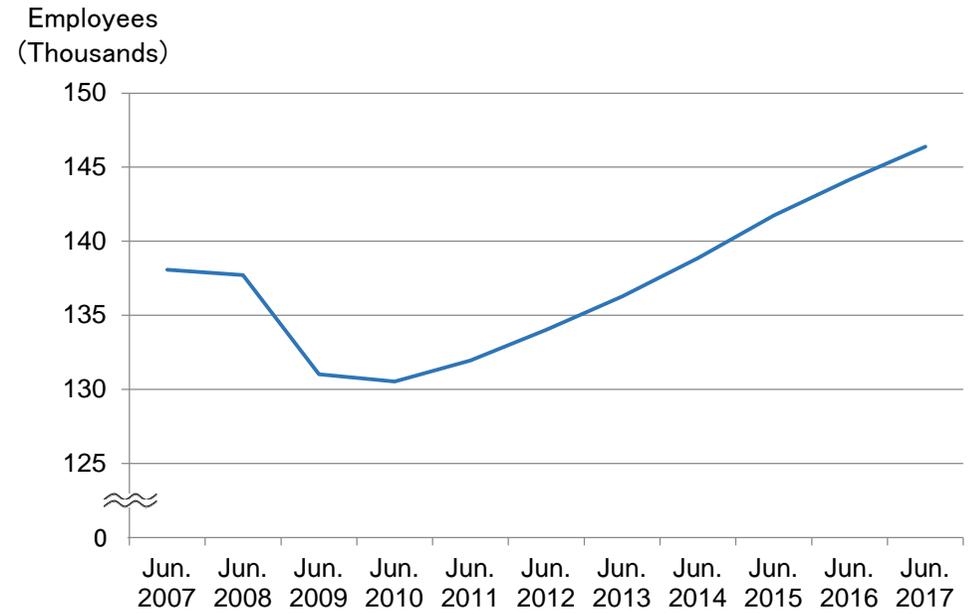
Since the 2008 global financial crisis, US employment has been recovering quickly.

- US unemployment rate is lower than it had been a decade ago before the financial crisis, consequently leading to an increase in those in the US workforce.

### US Unemployment Rate



### US Employees



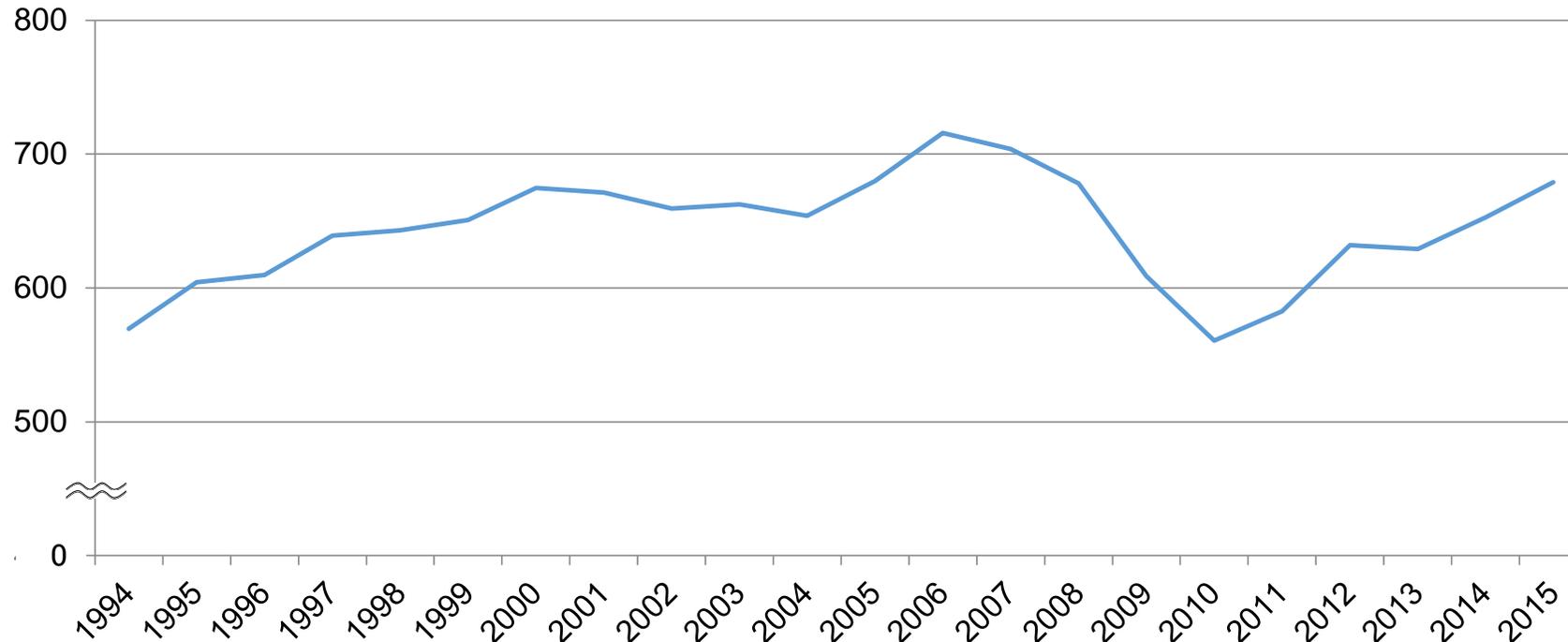
## 4. Office market

The US has also witnessed a rise in the number of new established companies, thus presenting new opportunities for office real estate market.

- Each year, the number of established companies less than 1 year old, or newly established companies, has been rising since the financial crisis.

### Corporate Establishments Less than 1 Year Old

No. of Established Co.  
(Thousands)

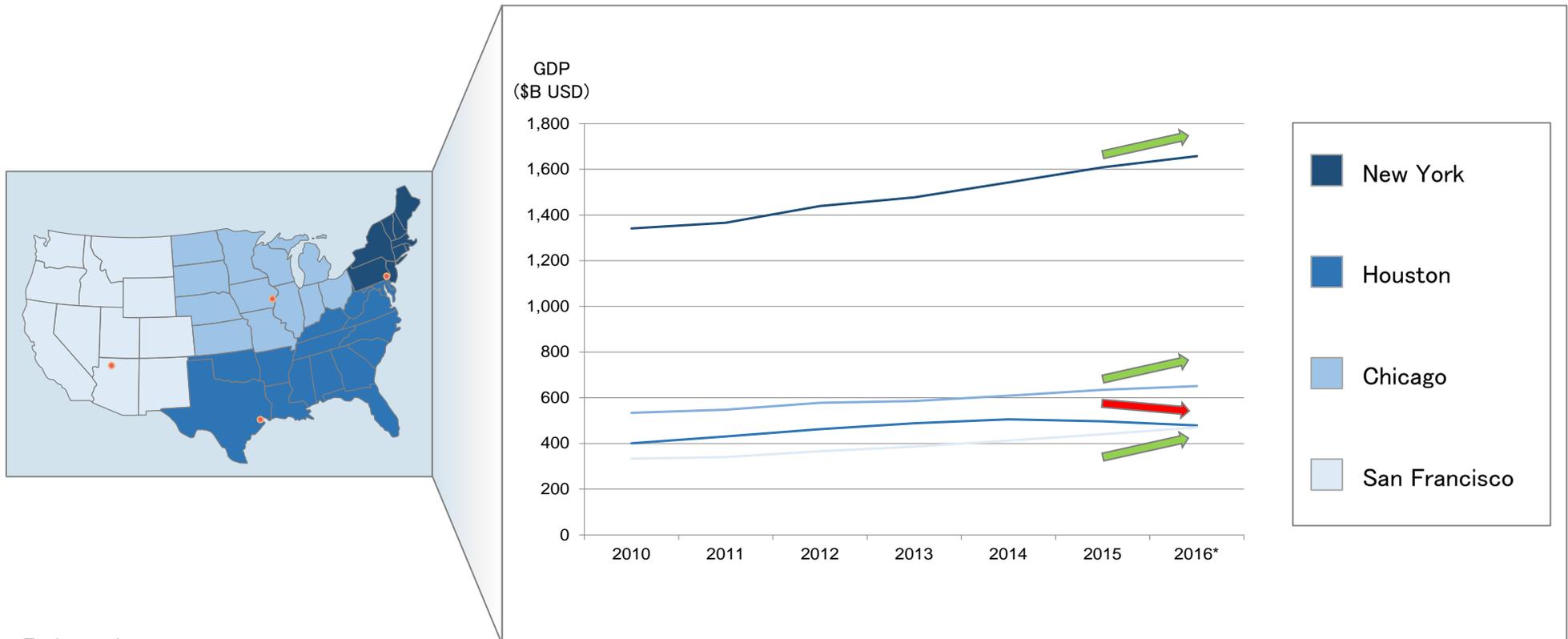


## 4. Office market

# Certain cities in the US have shown comparably noticeable traits of market opportunities.

- Among New York, Houston, Chicago, and San Francisco, Houston is the only city headed downwards in GDP.

GDP – New York, Houston, Chicago, San Francisco



\*Estimated

## USA

Moderate level of economic recovery in the US has been the driving force behind the solid performance in residential

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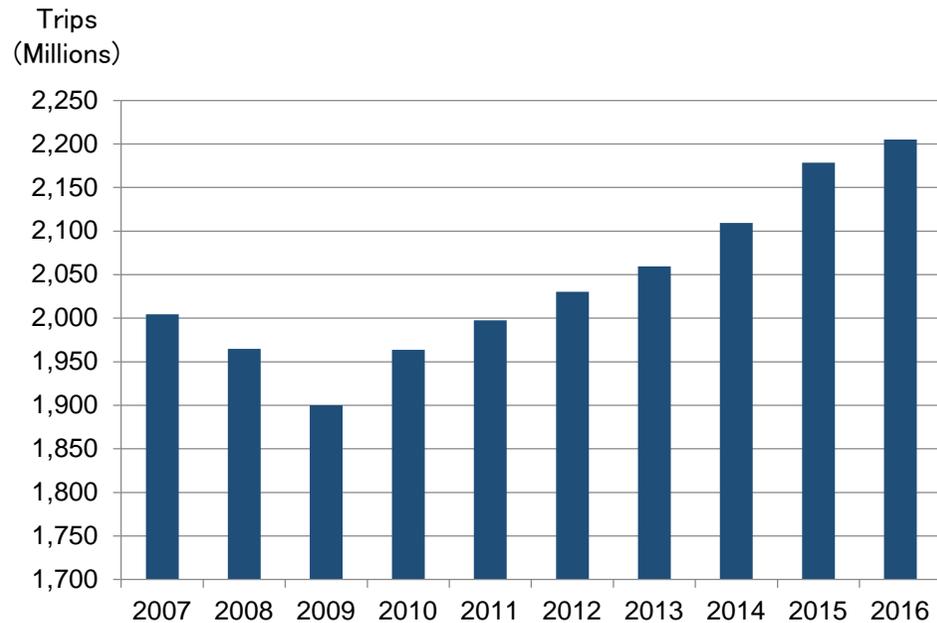
Hotel Market

## 5. Hotel market

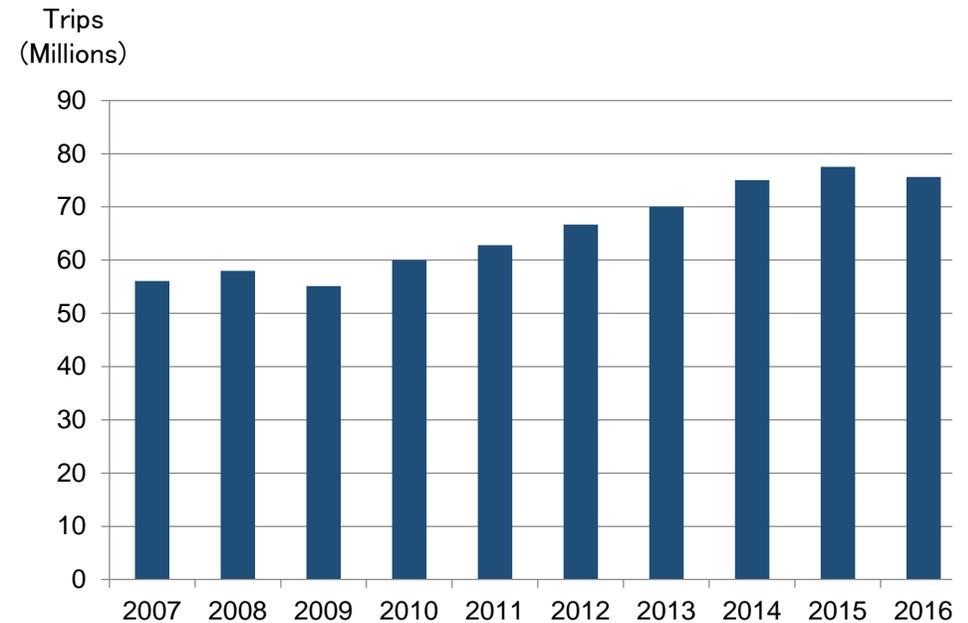
**With the increasing number of trips, the US hotel industry will soon face the need for more lodging space.**

- The number of people traveling is increasing, eventually requiring more accommodation spaces.
- The number of domestic travels within the US is far higher than the number of international travels to the US.

Travels within US (Domestic)



Travels to US (International)

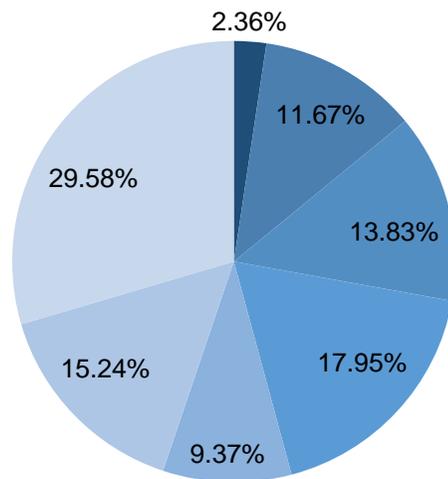


## 5. Hotel market

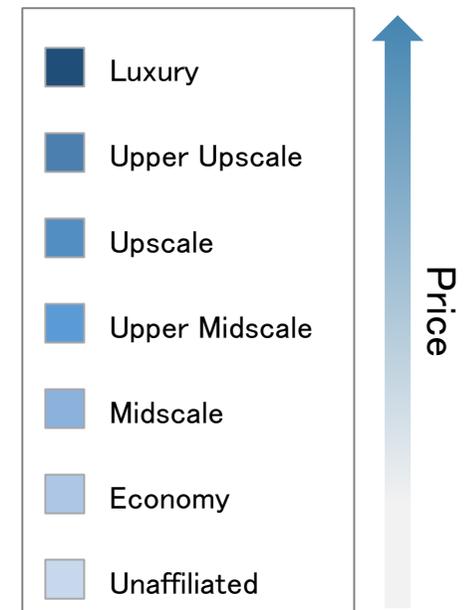
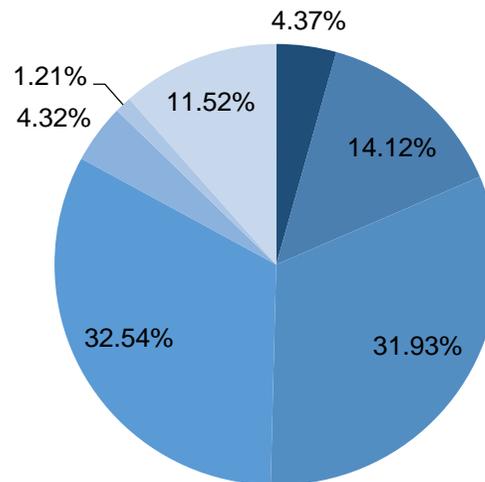
**By class segmentations, the higher-end hotels have been constructing more hotel spaces to respond to the rising demands.**

- US hotel classes are segmented by primarily according to average room rates.
  - In a descending order, the segmentation follows: Luxury, Upper Upscale, Upscale, Upper Midscale, Midscale, Economy.
- Unaffiliated hotels are hotels not affiliated with a member organization, thus varying widely in size, quality, and cost.

Existing Supply (Feb. 2017)



Under Construction (Feb. 2017)

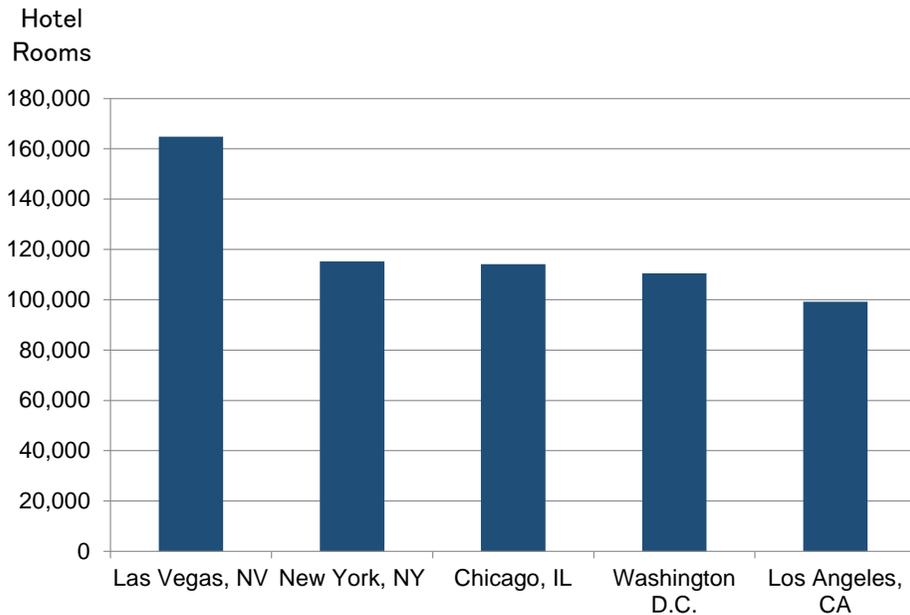


## 5. Hotel market

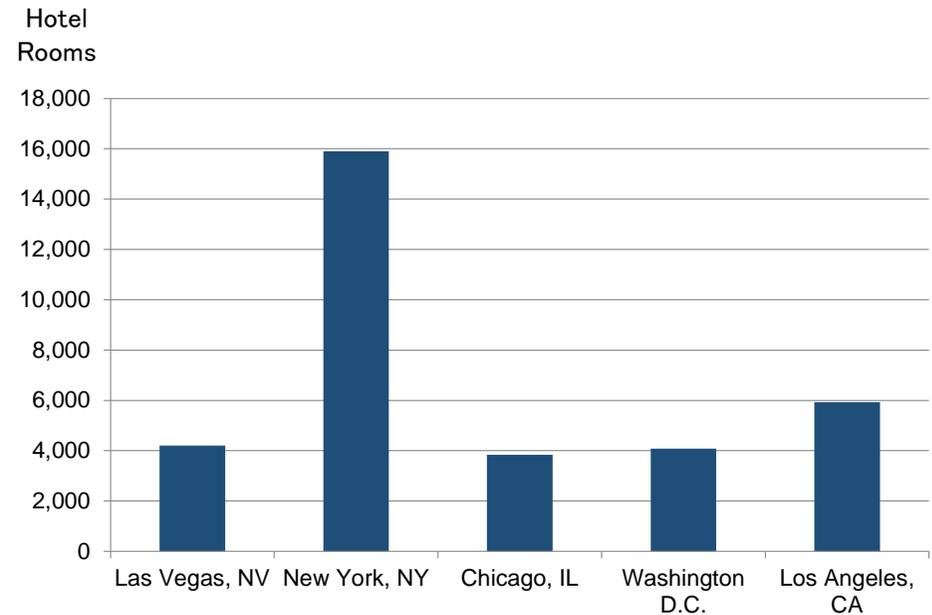
**By cities, New York has been constructing double, triple the amount of hotels compared to other metropolitan areas.**

■ Although Las Vegas leads in the total number of existing hotels, New York has been constructing more hotel spaces.

Existing Supply (Mar. 2017)



Under Construction (Mar. 2017)

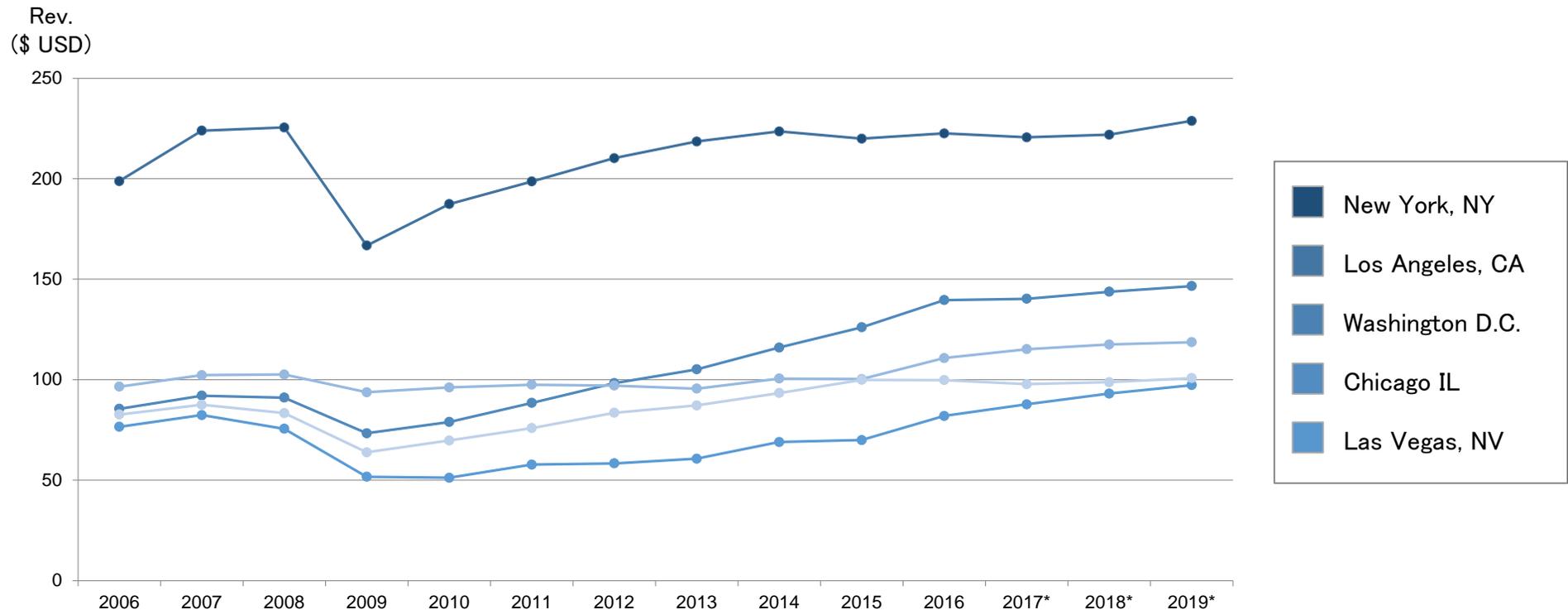


## 5. Hotel market

**Even by some of the more well-known tourist destination cities, the RevPAR is predicted to continue to increase.**

- Like the nationwide trend, individual cities have also experienced slow growth in terms of RevPAR since the 2008 global financial crisis.
- New York is notably much higher in terms of RevPAR, in comparison to other metropolitan cities.

US Hotels – RevPAR by City



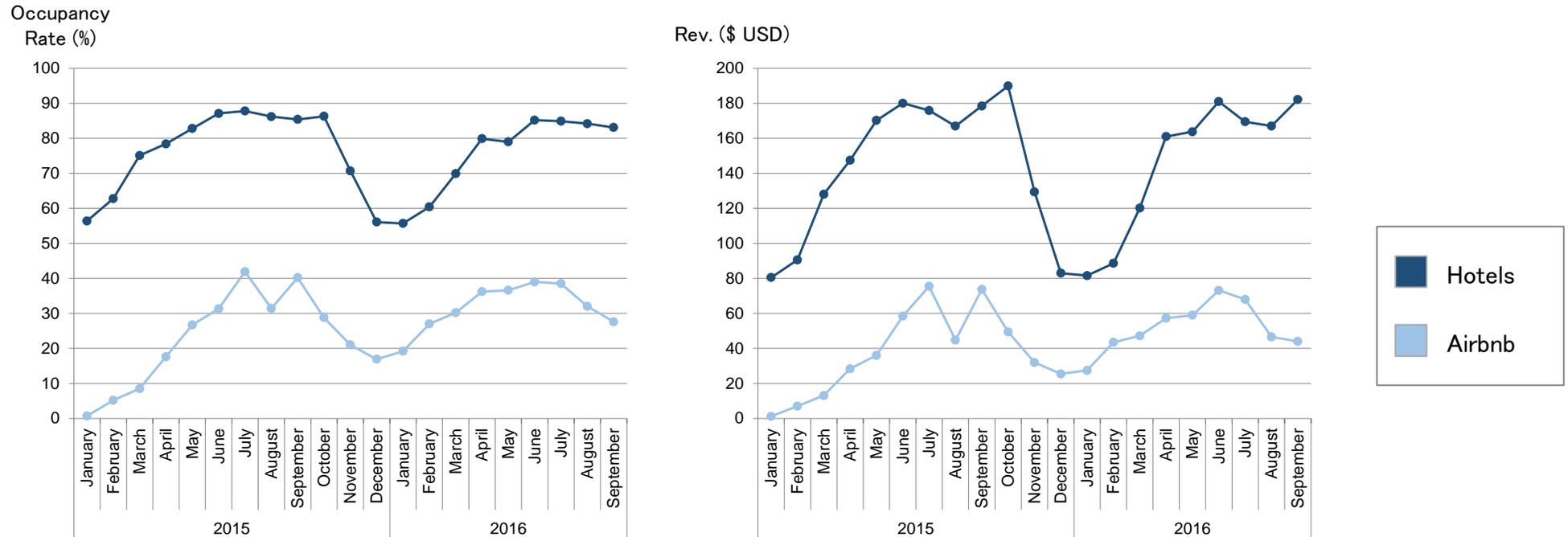
\*Estimated

## 5. Hotel market

**While Airbnb does pose as an lodging alternative to hotels, the performance of one market does not impact the other.**

- Boston University conducted research on the relationship between Airbnb and hotels in Boston.
- Though Airbnb experienced increases in occupancy growth and RevPAR, the gains did not affect the Boston hotels' performance.

Boston – Occupancy & RevPAR (2015–2016)



# Authors

中国

Lead  
Author



**Yinghua BAI, Ph.D.**

NRI Shanghai Division Manager

Expertise : urban planning, regional development, and planning of real estate business strategy.



**Wen WANG**

NRI Shanghai Sr. Consultant

Expertise : regional development, industrial strategy, and planning of real estate business strategy.



**Siwei LIU**

NRI Shanghai Sr. Consultant

Expertise : real estate business strategy, China marketing/business strategy of Japanese companies .



**Fang QI**

NRI Shanghai Asst. Consultant

Expertise : regional development, planning of real estate business strategy.

韩国

Lead  
Author



**JaRyong CHOI**

NRI Seoul Sr. Exec. Director

Expertise : real estate and retail business strategy, urban and regional development, investment planning.



**KangTae PARK**

NRI Seoul Consultant

Expertise : real estate, retail, service distribution strategy planning, operation/execution support



**SungWoo PARK**

NRI Seoul Consultant

Expertise : real estate, retail, service distribution strategy planning, operation/execution support

台湾

Lead  
Author



**Michihiro KONAGAI**

NRI Taiwan Sr. Consultant

Expertise : infrastructure development and business strategy planning in infrastructure market



**Chi han CHIANG**

NRI Taiwan Sr. Consultant

Expertise : policy and development planning, PPP advisory in land development domain.



**Jen-hua Liu**

NRI Taiwan Asst. Consultant

# Authors

シンガ  
ポール

Lead  
Author



**Toshiro TAKEKOSHI**

NRI Singapore Department Head

Expertise : infrastructure (real estate, energy) business, management and business strategies, cross border M&A



**Yen-Fen TEOH**

NRI Singapore Sr. Consultant



**Sana TAMURA**

NRI Singapore Consultant



**Ceputra SALIM**

NRI Singapore Assoc. Consultant

タイ

Lead  
Author



**Yuji Kato**

NRI Thailand Gr. Manager

Expertise : infrastructure business (real estate, energy) , finance



**Panitha Teerasarakai**

NRI Thailand Consultant



**Orachorn Supunsaleekhul**

NRI Thailand Business Analyst

インド

Lead  
Author



**Arpit MATHUR**

NRI India Sr. Consultant

Expertise : Infrastructure-related business strategy and alliances, real estate development support etc



**Prashant AGGARWAL**

NRI India Consultant

Expertise : M&A transaction advisory, business strategy, financial modelling and business planning etc



**Junmyong RA**

NRI India Group Manager

Expertise : Infrastructure-related business strategy, ASEAN business strategy, investment advisory etc



**SungYun (Sonny) KIM**

NRI India President

Expertise : Real estate investment market incl. behavioral investment, securitization, financial crisis etc...



**Hikojiro ISOZAKI**

NRI Global Knowledge Centre Head

Expertise : Automotive and Infrastructure sector advisory, investment strategy etc

# Authors

ロシア

Lead  
Author



**Andrei RODIONOV**

Moscow Br. Div. Director

Expertise : business strategy, global marketing, M&A



**Alexander KHARKOV**

Moscow Br. Consultant

Expertise : marketing in Russia, business strategy, economic regulation

アメリカ

Lead  
Author



**Keitaro Hirose**

NRI Consultant

Expertise : Business Strategy in Real estate and Infrastructure industry



**Joshua Choi**

NRI America Sr. Research Analyst

Expertise : Business Strategy, IoT, Emerging Technology



**Makiko Tanaka**

NRI America Research Analyst

Expertise : Business Strategy, Fintech, AI



**Sherry Kitajima**

NRI America Research Analyst

Expertise : Business Strategy, AI

## ■ Inquiry about this report generally or our solutions for real estate industry.

[Mail] [real-estate-report@nri.co.jp](mailto:real-estate-report@nri.co.jp)

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[Mail] [kouhou@nri.co.jp](mailto:kouhou@nri.co.jp)

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