



Compilation of CPPI and Use for Policy in Indonesia

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**Workshop on CPPI
Cappadocia – Turkey, 7-8 May 2018**

1. Current Condition

2. CPPI Compilation in Indonesia

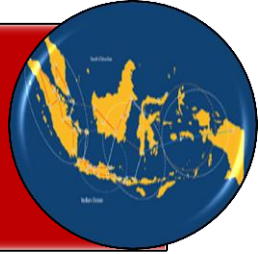
3. Utilization of CPPI

4. Way Forward (Incl. IMF TA 2018's Recommendation)

5. Challenges

CURRENT CONDITION

Area Coverage



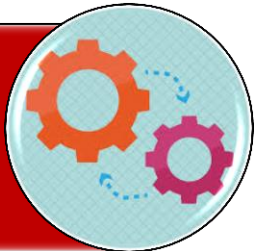
- Conducted since 1996
- Coverage: 10 major cities
- Almost 3.200 respondents (data per Q4-2017)
- Cities representativeness (from cost of living survey): more than 65% share of total

Segment Coverage



- CPPI has covered 7 (seven) segments:
 - 1) Office building,
 - 2) Retail space,
 - 3) Apartment,
 - 4) Hotels,
 - 5) Industrial estate,
 - 6) Convention hall,
 - 7) Warehouse complex
- Some segments have lease and sale-categories
- ±72% respondents are lease office, hotels & sale apartments

Methodology



- Since Q3-2015, commercial property data expressed by index
- CPPI is constructed using Laspeyres Method (base year: 2012)



Lease

Office Lease

Retail Lease

Apartment Lease

Hotels (*3, 4, 5)

Convention Hall

Sale

Office Sale

Retail Sale

Apartment Sale

Industrial Estate

Warehouse Complex



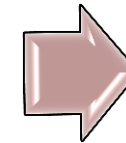
Data Collection

- Respondents are building management or owners
- Panel Respondents for existing data
- Data continually added for the new projects
- Survey conducted by property consultant



Data Stratification

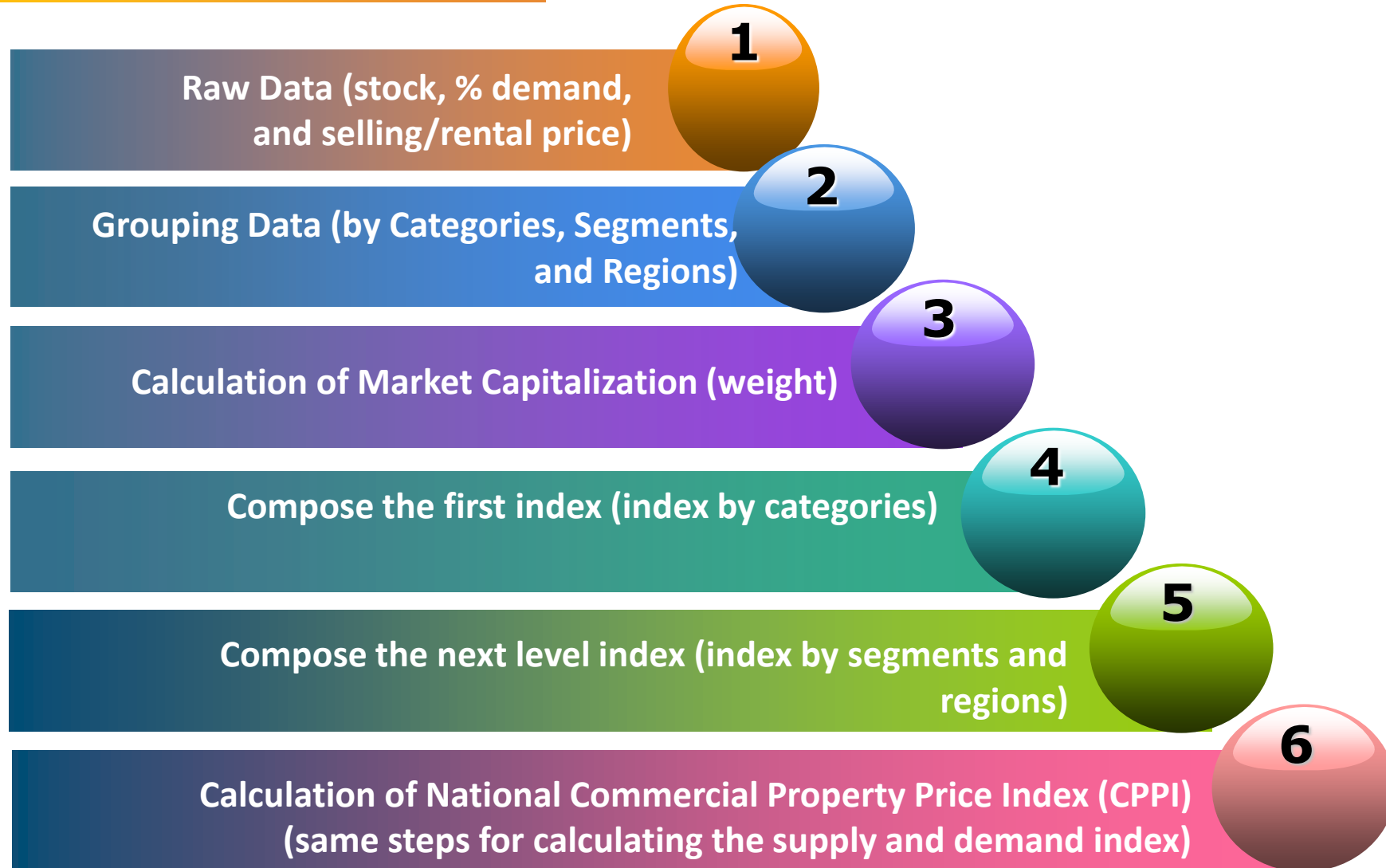
- By category (lease & sale)
- By segment (7 segments)
- By cities (10 major cities)



Analysis & Publication

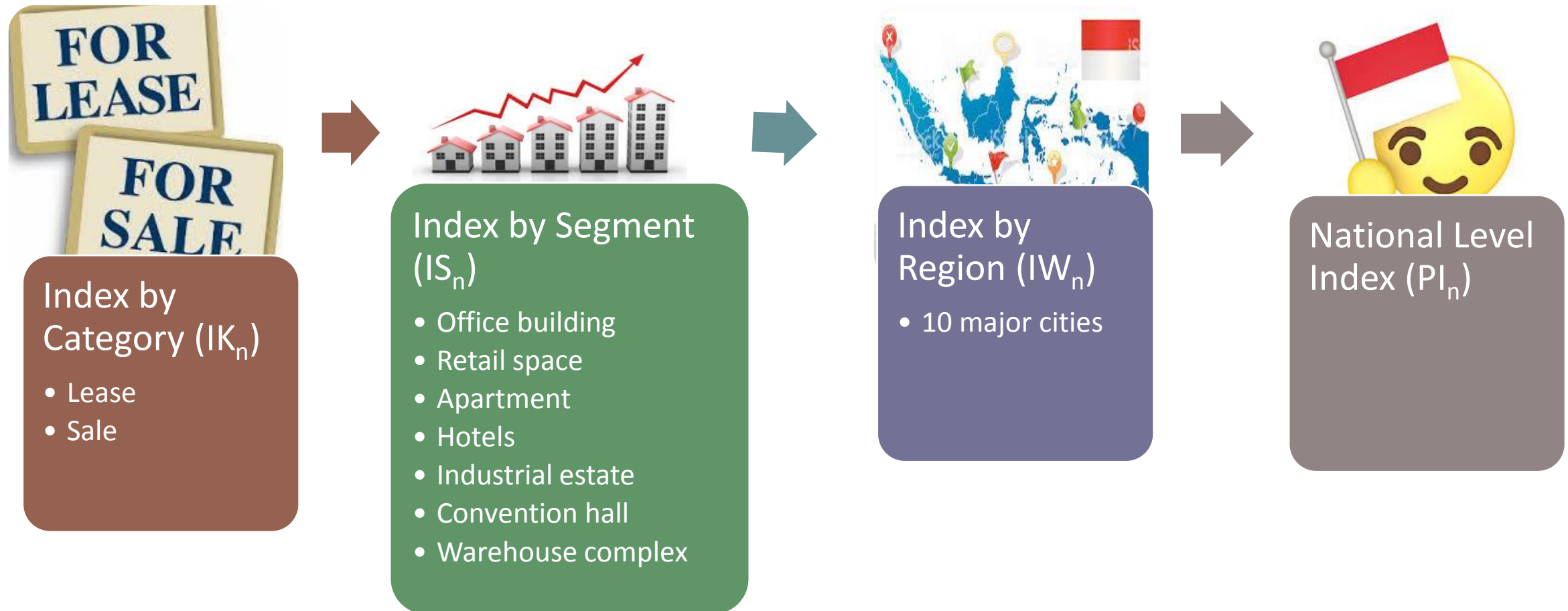
- Indices: Price Index (CPPI), Supply Index (CPSI), and Demand Index (CPDI)
- Published quarterly

Commercial Property Data Processing:



CPPI constructed using Laspeyres Method – 2012 as the base year

Higher level stratification price index constructed from the weighted average of the lower level stratification index – with market capitalization as the weight.



Weight by Category (Market Capitalization)



$$\text{Weight}_{\text{lease}} = \text{Property Stock} * \% \text{ leased} * \text{Rent Price}$$



$$\text{Weight}_{\text{sale}} = \text{Property Stock} * \% \text{ sold} * \text{Selling Price}$$

1. Index by Category (IK_n)



2. Index by Segment (IS_n)



3. Index by Region (IW_n)



4. National Level Index (IP_n)

$$IK_n = \frac{P_n * S_0}{P_0 * S_0}$$

IK_n = Commercial property price index per category in period n

P_n = Commercial property price per category in period n

P_0 = Commercial property price per category in base year

S_0 = Commercial property stock per category in base year

$$IS_n = \frac{\sum (IK_n * W_{kn})}{\sum W_{kn}}$$

IS_n = Commercial property price index per segment in period n

IK_n = Commercial property price index per category in period n

W_{kn} = Market capitalization per category in the segment in period n

$$IW_n = \frac{\sum (IS_n * W_{sn})}{\sum W_{sn}}$$

IW_n = Commercial property price index per region in period n

IS_n = Commercial property price index per segment in period n

W_{sn} = Market capitalization per segment in the region in period n

$$IP_n = \frac{\sum (IW_n * W_{wn})}{\sum W_{wn}}$$

IP_n = Commercial property price index in period

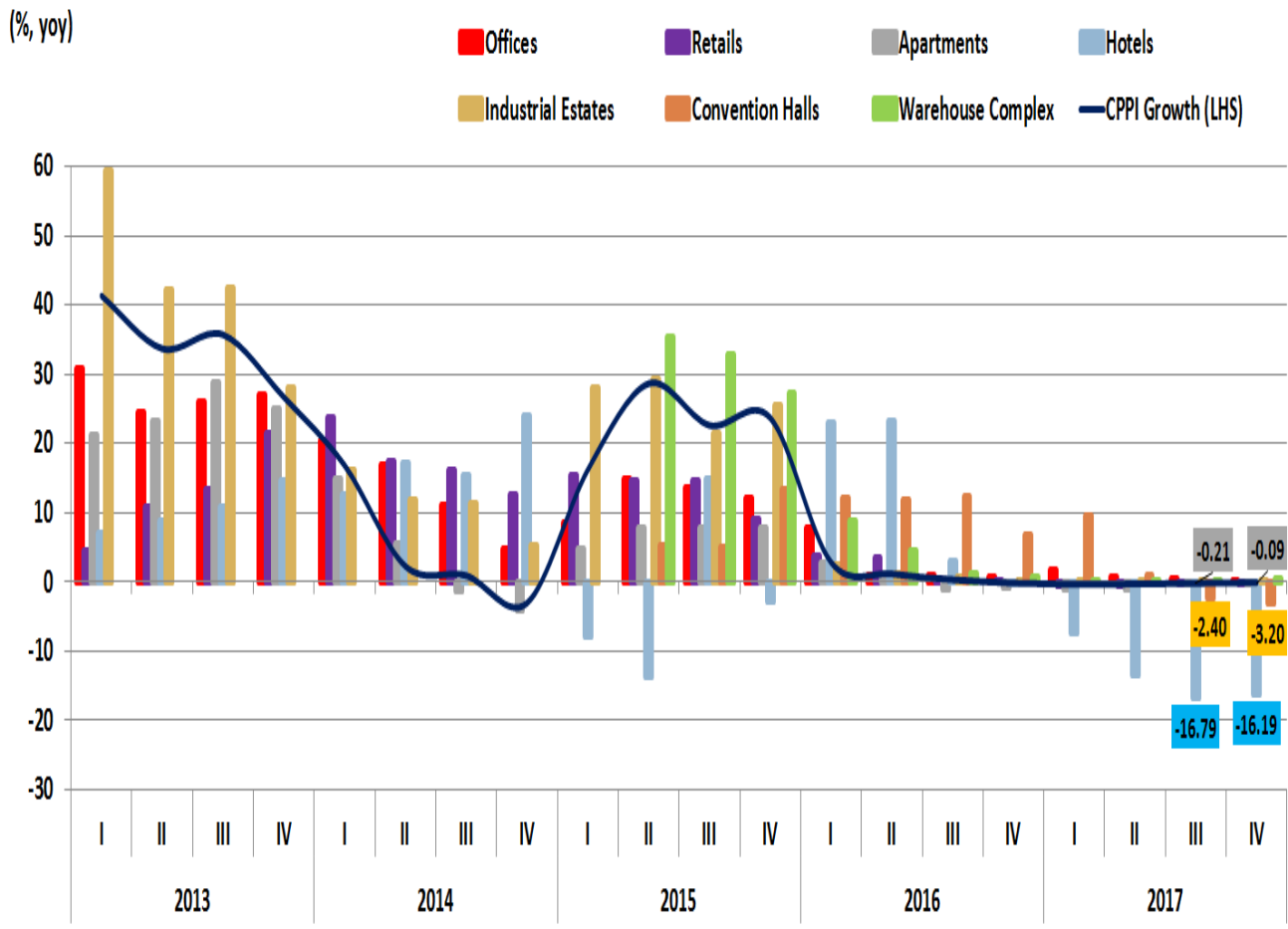
IW_n = Commercial property price index per region in period n

W_{wn} = Market capitalization per region in period n

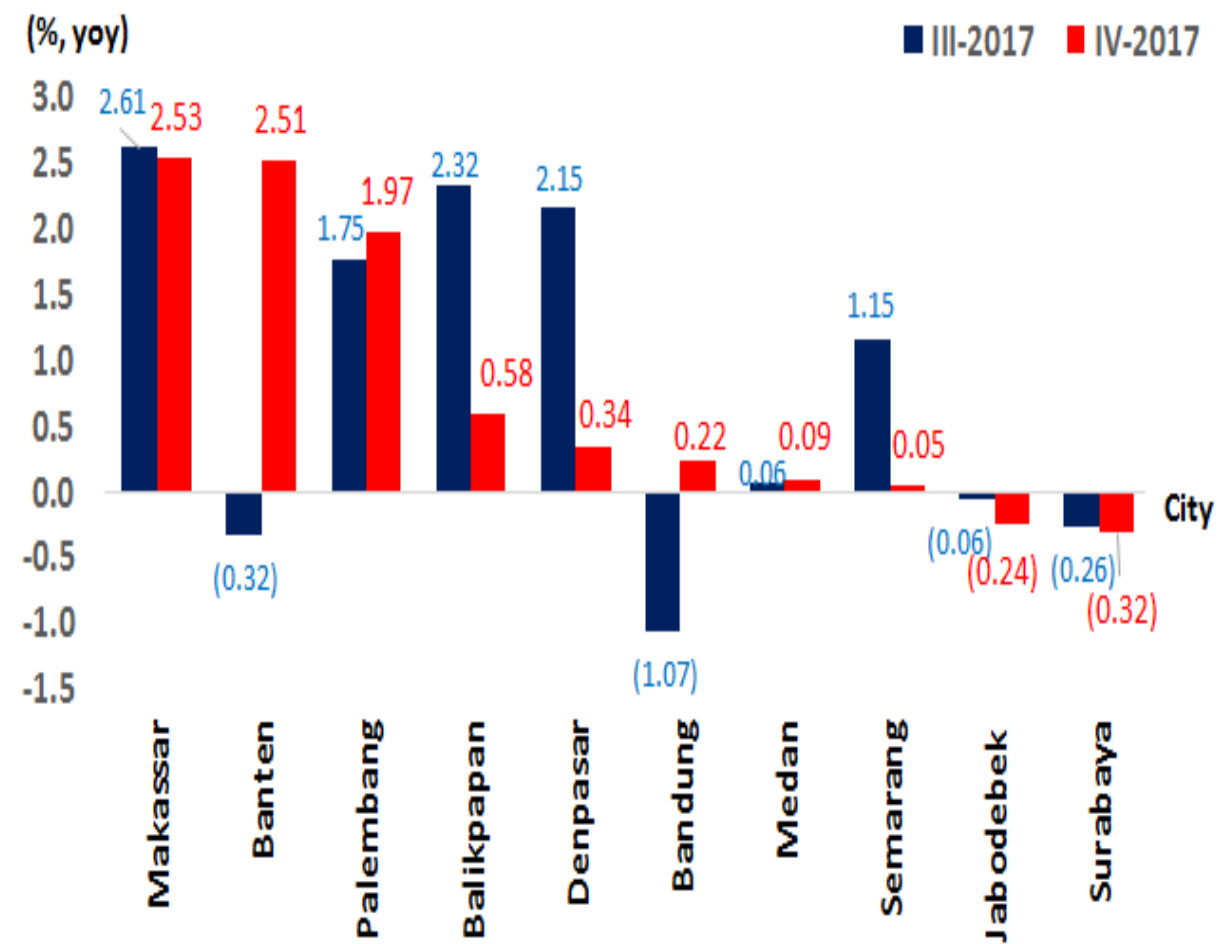


Indonesia's CPPI

CPPI

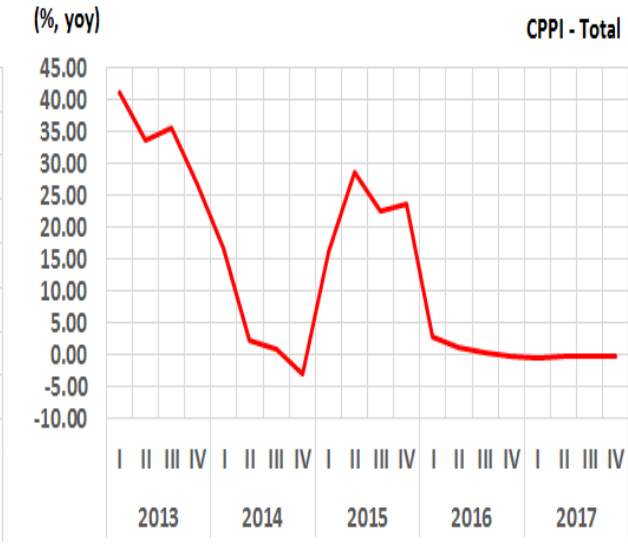
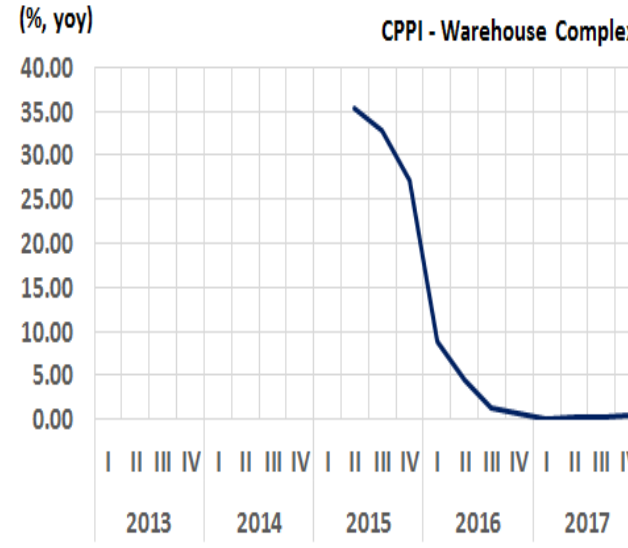
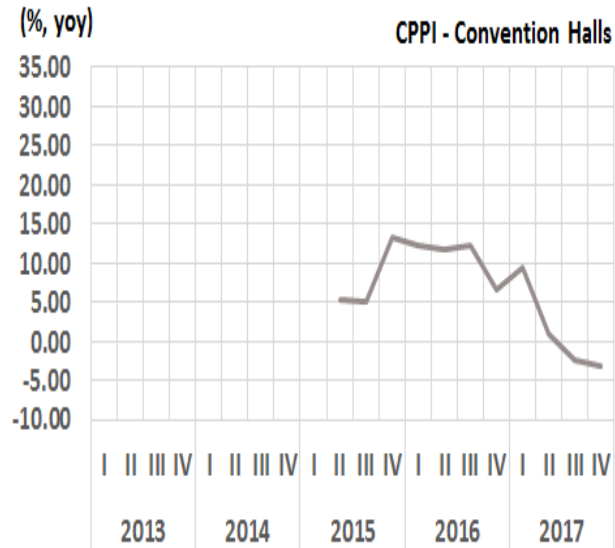
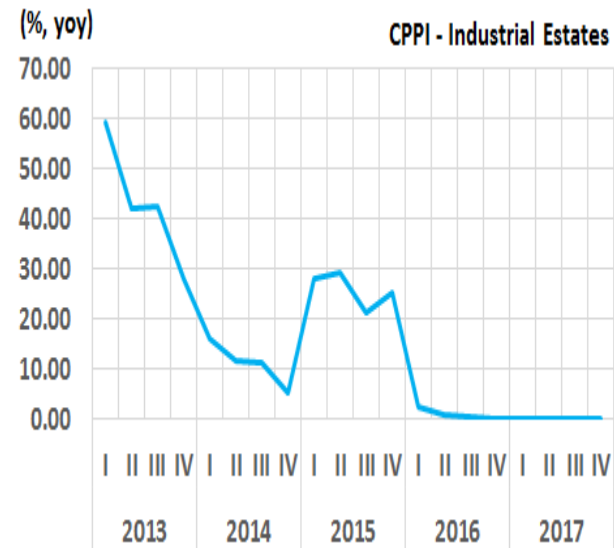
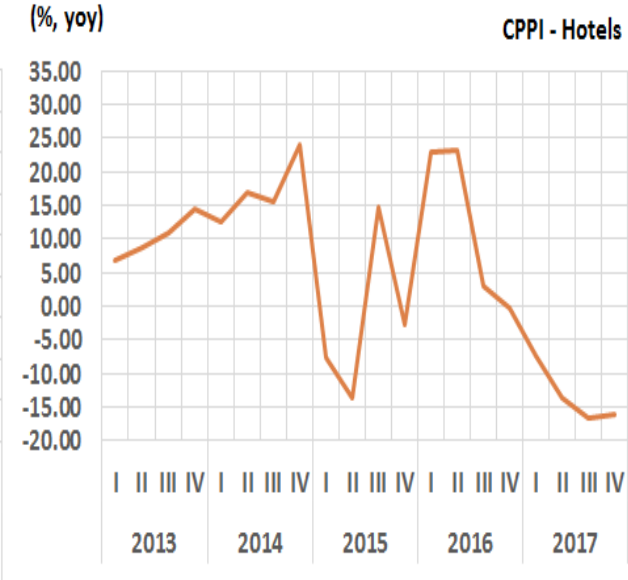
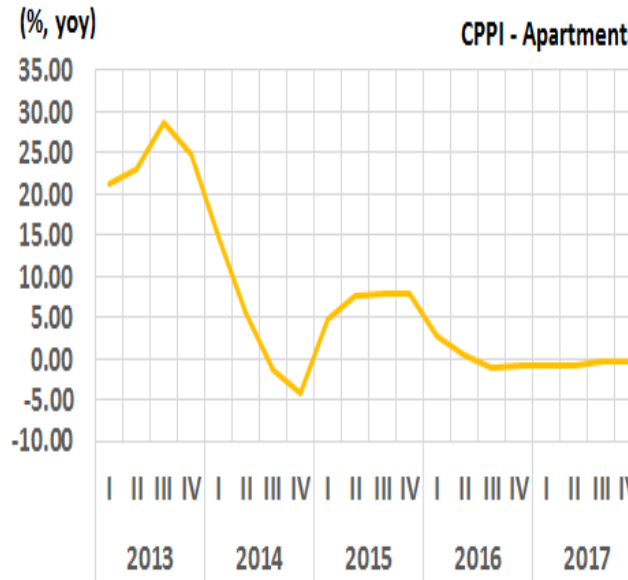
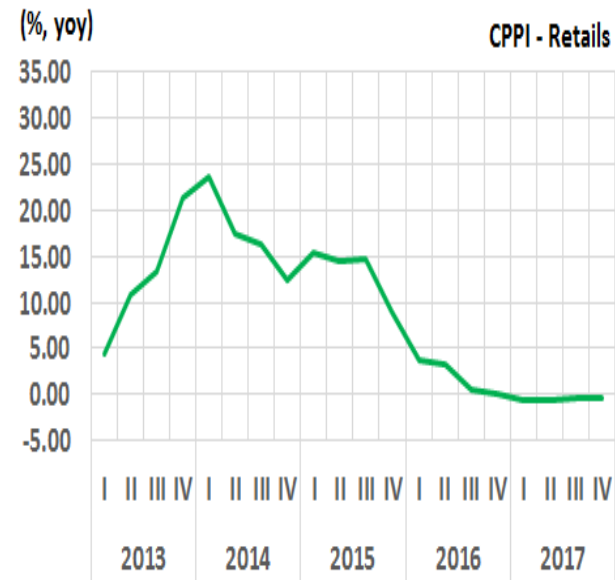
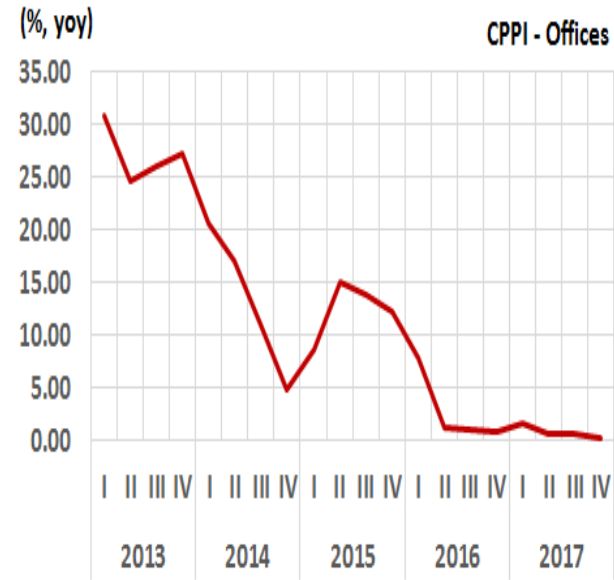


g CPPI by Cities





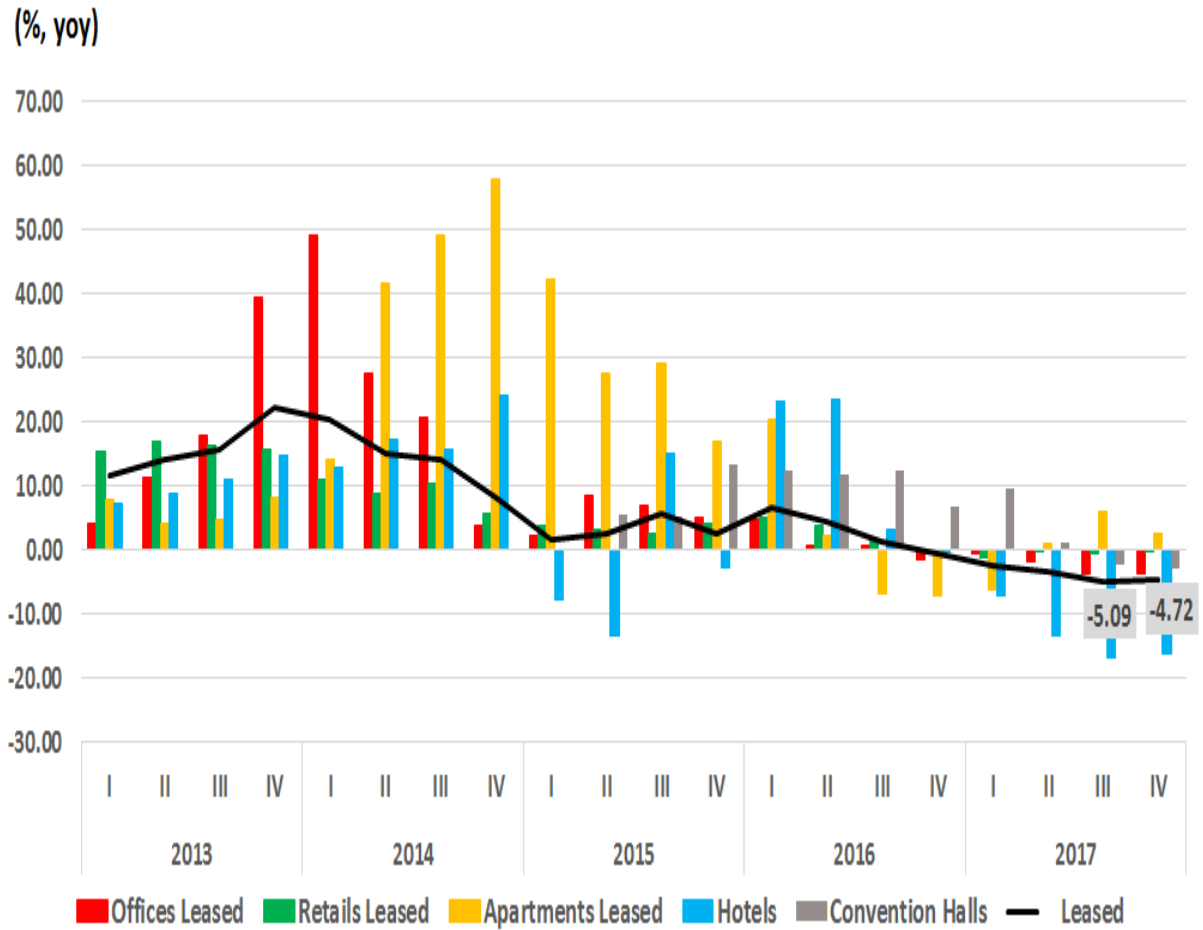
Indonesia's CPPI by Segments



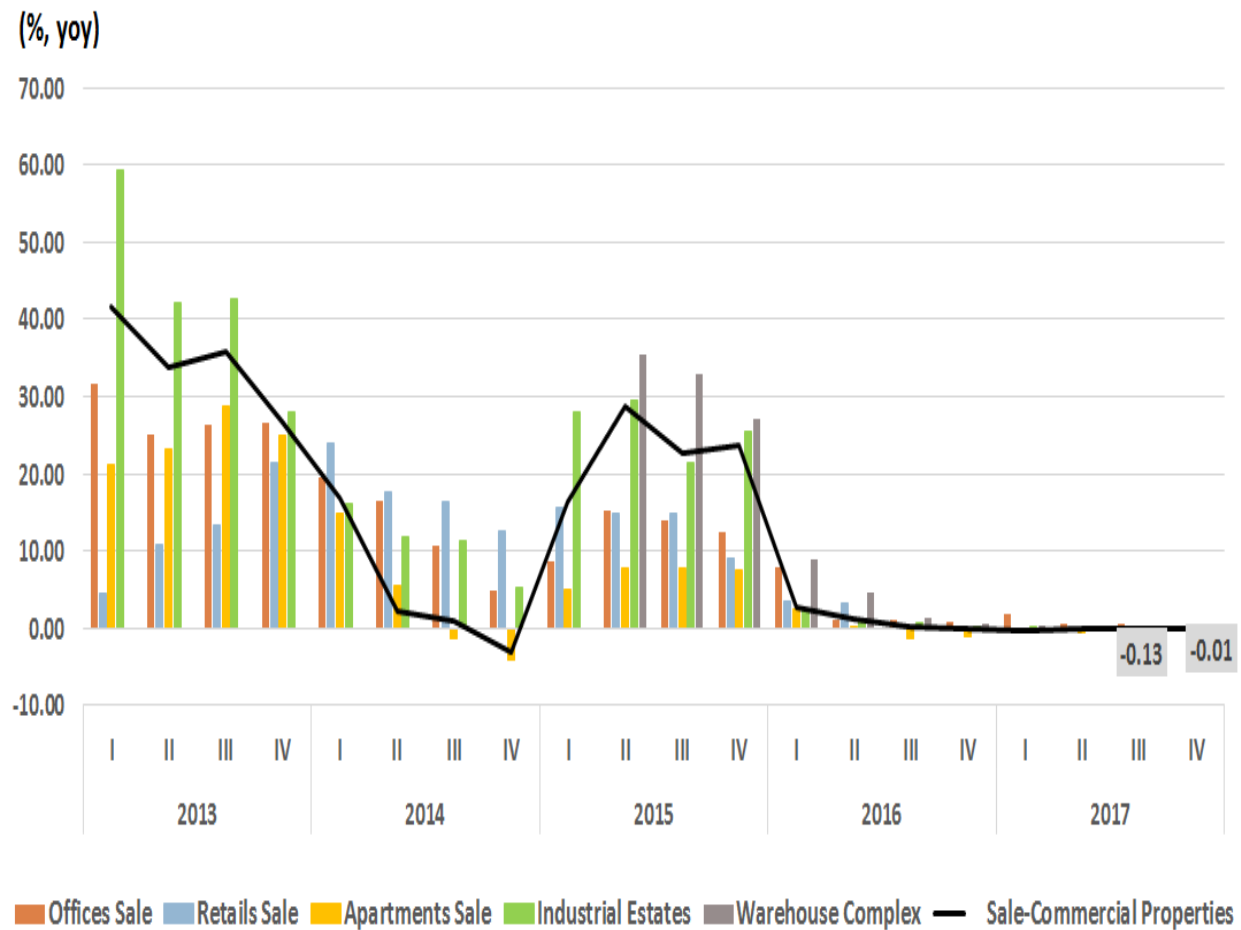


Indonesia's CPPI

Lease-CPPI



Sale-CPPI

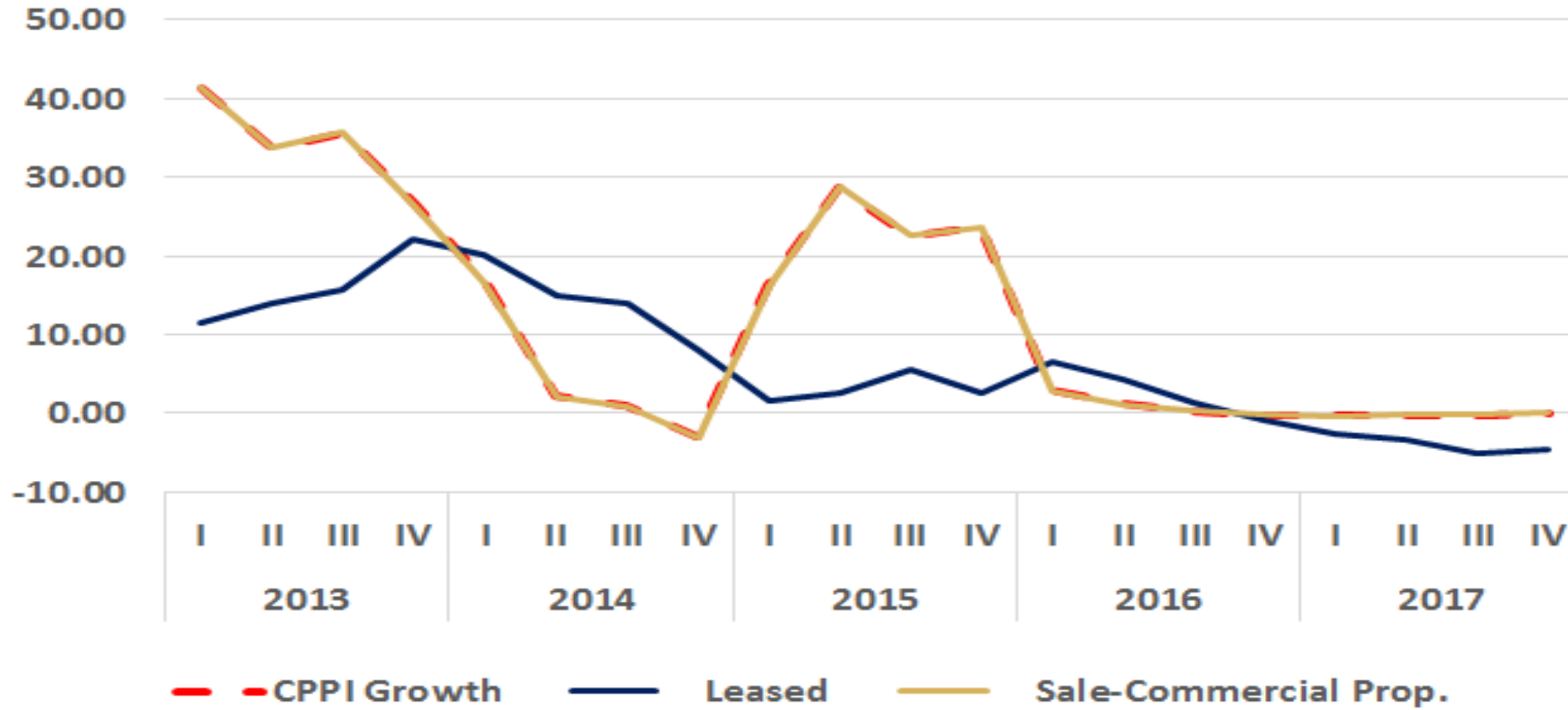




Indonesia's CPPI

Total CPPI-Lease-Sale

(%, yoy)





Early Warning System for financial system instability caused by the asset price



Policy recommendation in stabilizing asset price inflation



To monitor the effectiveness of macroprudential policies, such as Loan To Value (LTV) in apartment segment



As a leading indicator of economic growth

Change the base year of Commercial Property Price Index (CPPI, also CPSI and CPDI)'s calculation from base year of 2012 to 2017

Remove the (sale) apartment data from commercial property database and include it into residential property database following International Best Practice

Applying more appropriate methodology (since the absence of the CPPI handbook)

- * New weight
- * Laspeyres → Fisher Method



WAY FORWARD (IMF TA 2018's Recommendation)

1

Segregation to Lease & Sale

CPPI for Lease

CPPI for Sale

National Index (Lease & Sale Indexes)

2

Weight

Stock Value :
Stock *
Selling/Rental
Price

Stock value as
New Weight

3

Index
Calculation

Laspeyres **Current**

+

Paasche **New**

Fisher **New**

Aggregate pure sales price and lease price indexes

Reason:
Current CPPI is considered as 'activity based' index, due to its market capitalization as the weight



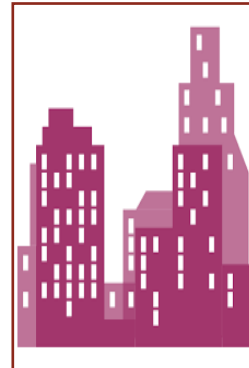
Limited number of expert surveyor in property, especially in regional



Changing of property consultants may change the way of data/information gathered



Data availability and accuracy



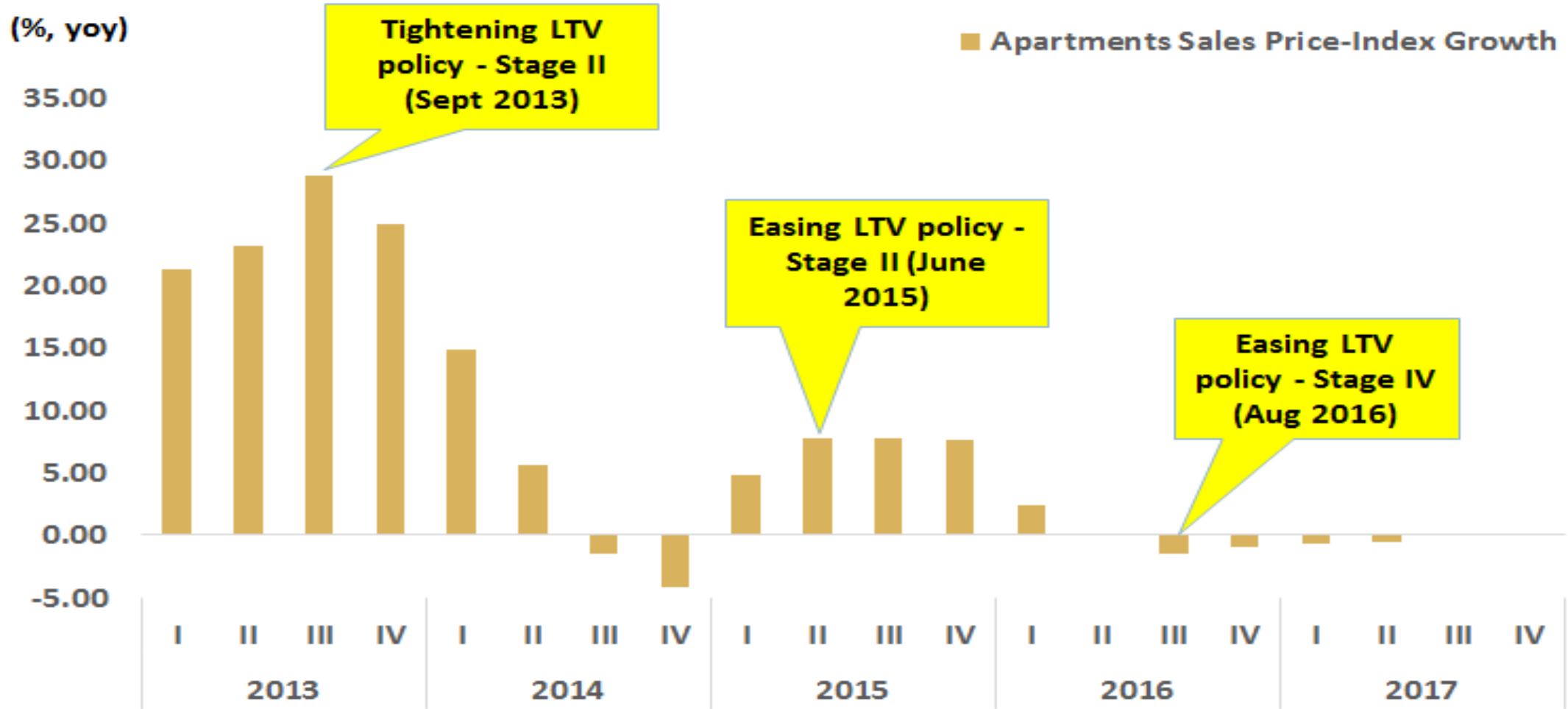
The addition of cities will affect the index adjustment

감사합니다 Natick
Danke Ευχαριστίες Dalu
Thank You Köszönöm
Спасибо Dank Gracias
谢谢 Merci Seé
ありがとう

Grazie

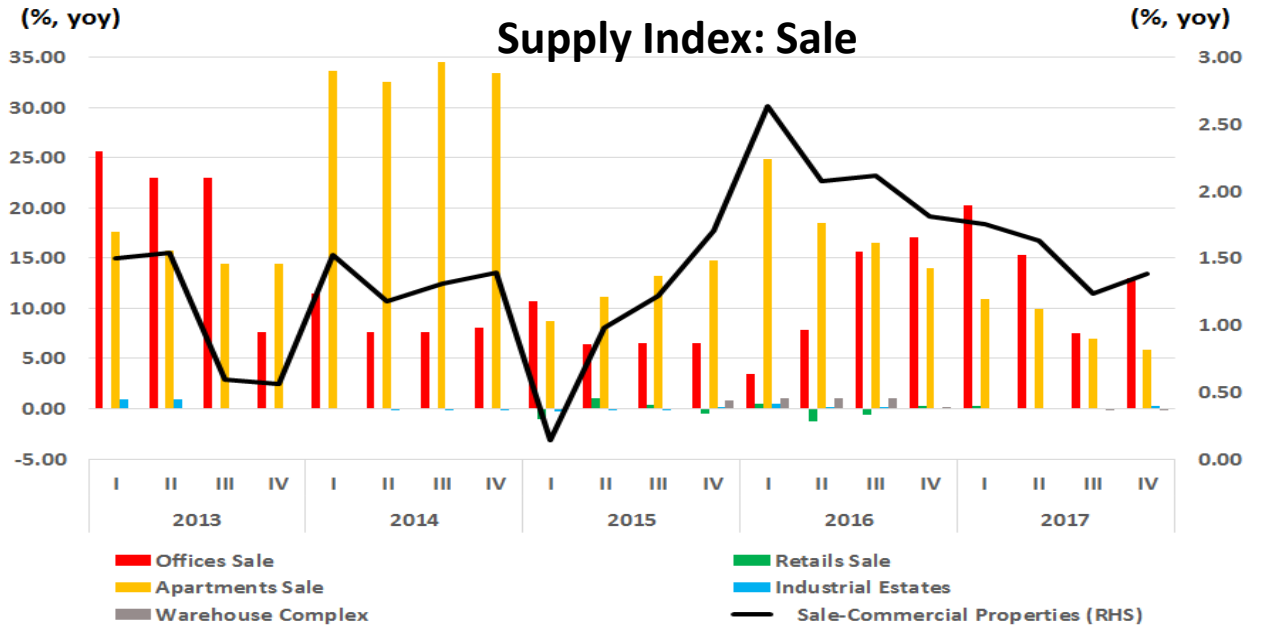
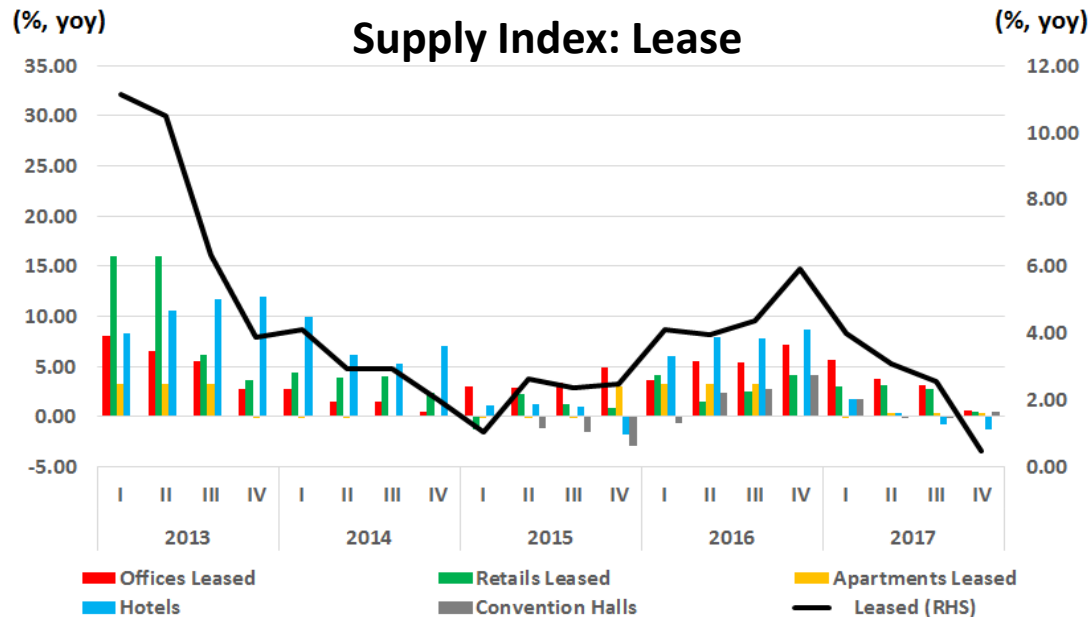
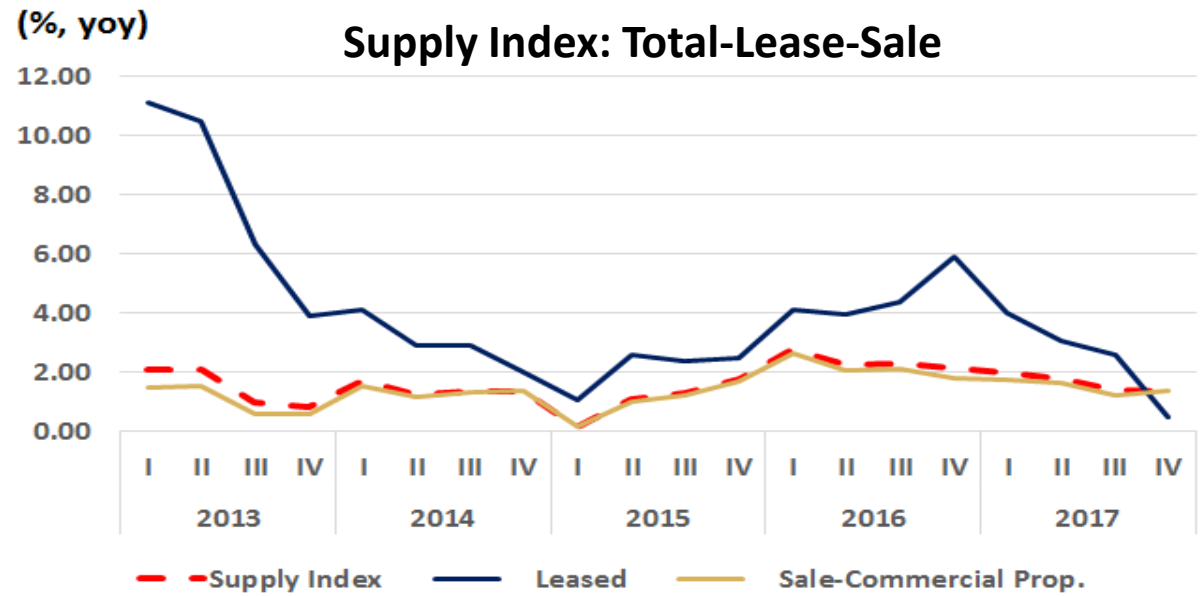
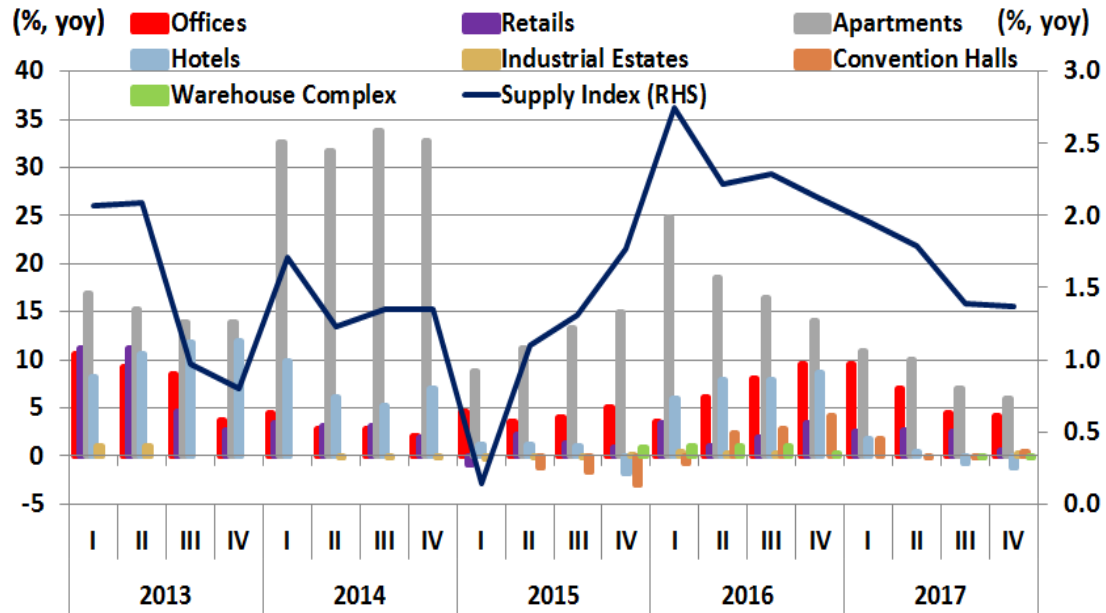
Obrigado

LTV Policy and Apartment Sales Price Index Growth





SUPPLY INDEX



DEMAND INDEX

