

FIG WORKING WEEK 2019

22-26 April, Hanoi, Vietnam

Presented by the FIG Working Week 2019,
April 22-26, 2019 in Hanoi, Vietnam

"Geospatial Information for a Smarter Life
and Environmental Resilience"



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A Comparison of Characteristics of the Residential Real Estate Market Using Capitalization Rate : Focus on SEOUL and Hanoi City

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Two perspective of housing market analysis

- General market analysis
- Submarket analysis

Starting point of study

- How many percent of house prices are available for a loan?
- How much is the interest rate of a loan?



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Present in Seoul and Hanoi



Seoul APT



Hanoi APT



Hanoi single-house

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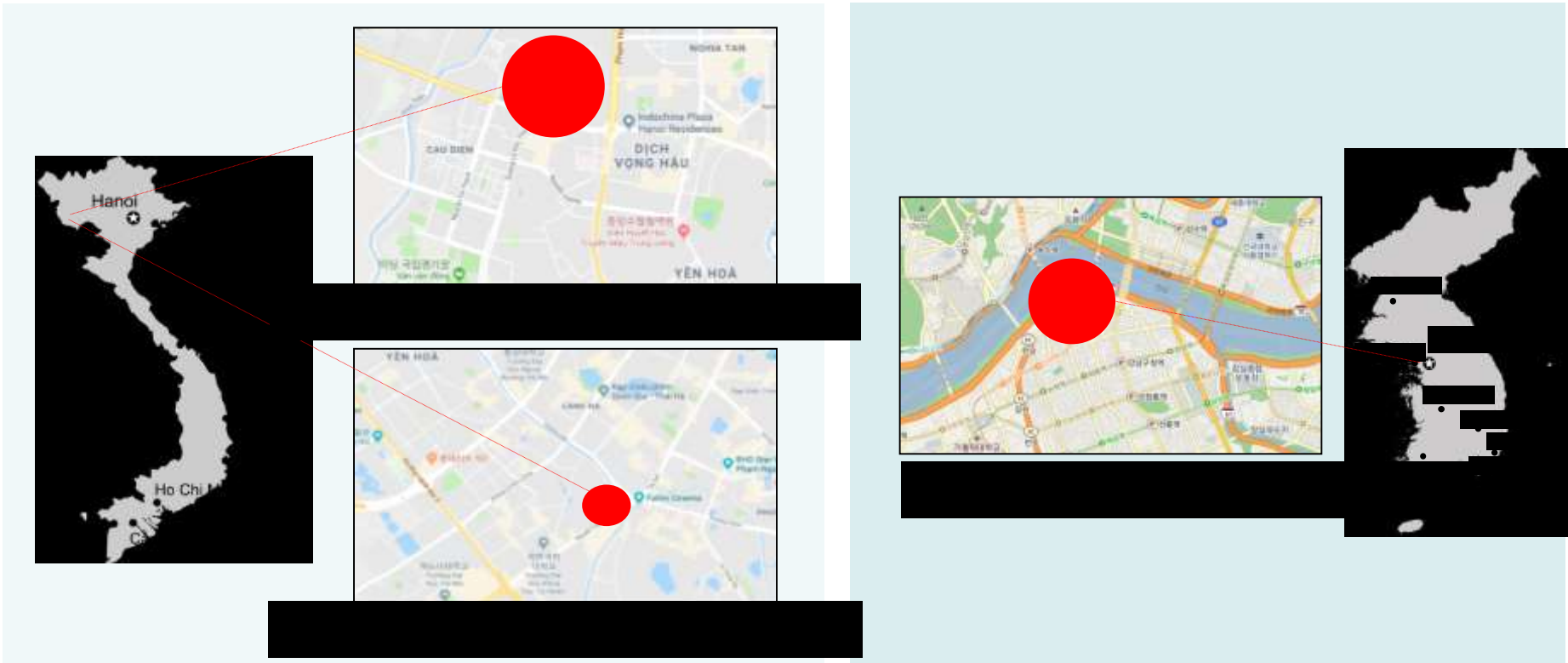
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The location and the number of samples



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Analysis Methods

$$R_0 = \text{Net Operating Income} \div \text{Value}$$

Market Extraction Method ★

$$R_0 = \text{covered interest rate} \\ + \text{uncovered interest rate} \pm \Delta$$

The Built-up Method

$$R_0 = LV \times R_M + EV \times R_E$$

The Investment Combination Method

$$R_0 = y - LV \times (y + p \times \text{SFF}_{y\%,t} - MC) \\ - \Delta \text{SFF}_{y\%,t}$$

Ellwood Method

$$R_0 = \text{DCR} \left(\frac{\text{NOI}}{\text{Debt Service}} \right) \times LV \times MC$$

Debt Coverage Method ★



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Example of Capitalization Rates

Economic Indicators | PwC Real Estate Investor Survey, Q3 2018

| | Regional Mall | | CBD Office | | Warehouse | | Apartment | |
|---|---------------|--------------|-------------|-------------|-------------|-------------|--------------|--------------|
| | Q3 2018 | Q2 2018 | Q3 2018 | Q2 2018 | Q3 2018 | Q2 2018 | Q3 2018 | Q2 2018 |
| Discount Rate (IRR)^a | | | | | | | | |
| Range (%) | 5.00 – 11.50 | 5.00 – 11.50 | 5.25 – 9.00 | 5.25 – 9.00 | 5.25 – 9.00 | 5.00 – 9.00 | 5.25 – 10.00 | 5.25 – 10.00 |
| Average (%) | 7.55 | 7.55 | 6.89 | 6.91 | 6.38 | 6.36 | 7.20 | 7.20 |
| Change (bps) | | 0 | | -2 | | +2 | | 0 |
| Overall Cap Rate (OAR)^a | | | | | | | | |
| Range (%) | 4.00 – 10.00 | 4.00 – 10.00 | 3.00 – 7.50 | 3.00 – 7.50 | 1.50 – 6.25 | 3.00 – 6.50 | 3.50 – 8.50 | 3.50 – 8.50 |
| Average (%) | 6.30 | 6.30 | 5.44 | 5.47 | 4.62 | 4.80 | 5.23 | 5.26 |
| Change (bps) | | 0 | | -3 | | -18 | | -3 |
| Residual Cap Rate | | | | | | | | |
| Range (%) | 4.25 – 10.00 | 4.25 – 10.00 | 4.50 – 8.50 | 4.50 – 8.50 | 4.50 – 7.25 | 4.50 – 7.25 | 4.00 – 8.50 | 4.00 – 8.50 |
| Average (%) | 6.80 | 6.83 | 6.11 | 6.11 | 5.64 | 5.69 | 5.57 | 5.61 |
| Change (bps) | | -3 | | 0 | | -5 | | -4 |

CAP Rate by Market Extraction Method

Source : Appraisal Institute, US



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CAP Rates of APT by Market Extraction Method (MECR)

1.04%

Seoul APT

<

3.89%

Hanoi APT

<

5.26%

US APT



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CAP Rates of APT by Debt Coverage Method (DCCR)

1.82%

Seoul APT

<

4.37%

Hanoi APT



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Comparison of the CAP Rates

GAP ; DCCR – MECR

Seoul APT **0.78%** > **0.49%** Hanoi APT

Ratio ; MECR ÷ DCCR

Seoul APT **57%** < **89%** Hanoi APT



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Implications

- Individual investors : Buying HANOI APT by raising the LTV
- Stable market : Asset value of each perspective should be small

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