

Commercial Property Price Indexes for Tokyo

Version: 7 Sept, 2013

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Summary: aim

- Well-motivated

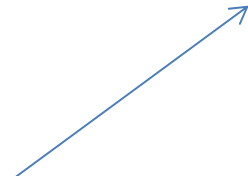
The existing indices are based on
appraisals, not transactions...
What if NIKKEI were estimated by
analysts!?

- To construct a quality-adjusted Tokyo office price index based on stock market data

But office sales are
infrequent...

Japan's Real Estate
Investment Trusts (J-REIT):
largest in Asia!

>75% holdings
in RE



Contribution

- Parallel markets for trading direct property (e.g. office) and indirect property (e.g. office REIT)
 - long been recognized in real estate literature
- Geltner & Kluger (1998) was the first to propose a direct property price index based on information in US REIT
 - **FTSE NAREIT PureProperty Index**, launched in 2012, see Horrigan, Case, Geltner, Pallakowski (2012)
- This paper has good potential to offer a similar contribution / application in Japan

Comment: results

Appraised value has measurement error (p.14)

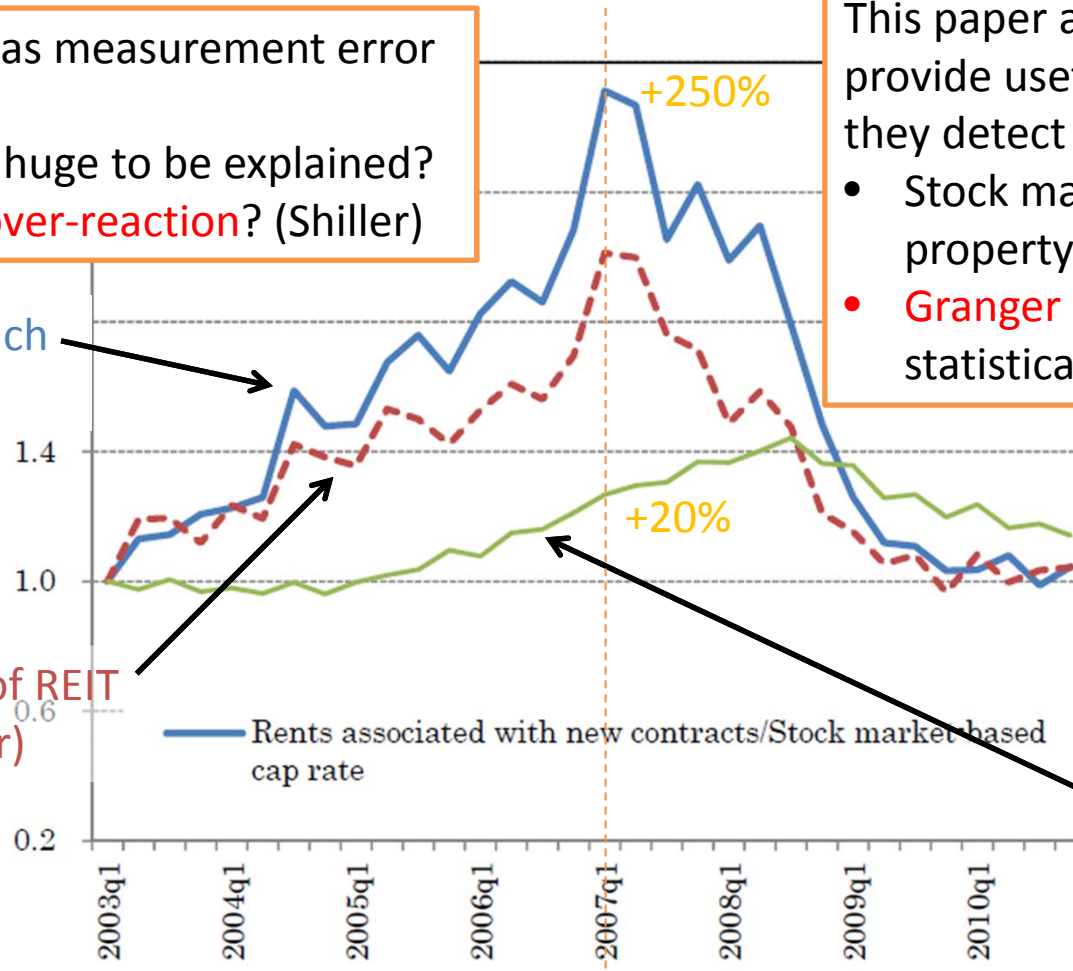
- Difference too huge to be explained?
- **Stock market over-reaction?** (Shiller)

This paper argues the top two provide useful information as they detect the turn earlier

- Stock market downturn = property market downturn?
- **Granger causality** to test for statistical significance?

The new approach (this paper)

Enterprise value of REIT (similar to Geltner)



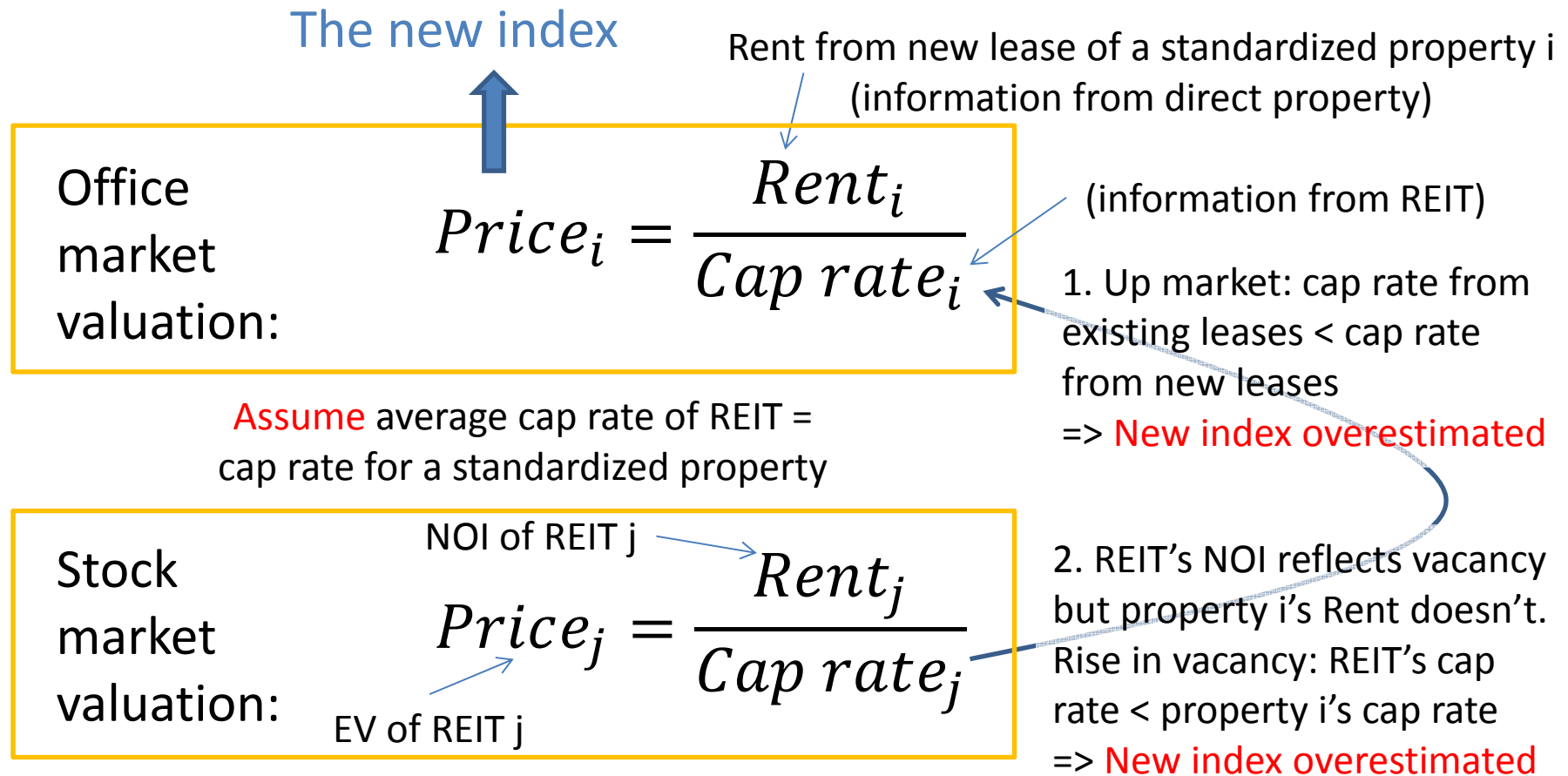
Appraised value of REIT's office portfolio

Figure 6: Estimates of property price indexes

Comment: methodology

Eq.1 to 10 is simply **Direct Capitalization**

3. REIT's office portfolio may change over time and its cap rate **may not match** that of a standardized property



Comment: sample

- **Representative?**
 - 4 out of 41 J-REIT
 - 1/4 of total J-REIT market cap (¥7 trillion)
 - 531 out of ~10,000 office buildings in Tokyo's 23 wards
- Consider Geltner's **pure-play approach** to enlarging the sample?
 - United Urban, Japan Prime Realty, Mori Trust Sogo, ORIX, etc. are mixed-portfolio J-REIT
 - But require information on % holding of different property types

Side issues

- P.9: cap rate should not depend on property quality
 - theory: cap rate = expected total return – expected rental growth
 - e.g. older office should have a higher cap rate
 - evidence: see McDonald & Dermisi (2009, JREFE)
 - Table 4: actually confirmed the theory
- Hedonic price equation
 - leasehold dummy not reported in Table 4?
- Rent equation
 - Table 4: lower R2 probably because lease terms (e.g. lease length, concessions...) are ignored

Thank you