Some Issues on House Price Indexes

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HANDBOOK ON RESIDENTIAL PROPERTY PRICE INDICES

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Houses have particularity with few equivalents. The key issue is how to make quality adjustments.

- Hedonic measures:
  - Researchers estimate the price of each attribute of a house
  - Detailed information about the attributes of a house is required
  - Some important attribute variables may be omitted in hedonic regression (i.e. omitted variable problem)

- Repeat-sales measures:
  - Researchers focus on houses that are traded multiple times (put differently, researchers ignore houses that are traded only once)
  - Relatively easy to estimate, so probably more practical
  - Houses that are repeatedly traded may not be a representative house (i.e. sample selection bias)
Five indexes for condominiums in the Greater Tokyo Area

- Standard repeat sales
- Case-Shiller
- Age-adjusted repeat sales
- Standard hedonic
- Rolling hedonic
Hedonic indexes estimated using repeat-sales samples

- Traded once or more
- Traded more than once
- Traded more than twice
- Traded more than three times
“Although a natural starting point for constructing an index, the repeat sales method is not preferred above the hedonic method for constructing a constant quality residential property price index. However, it can offer a solution where there is limited or no information on housing characteristics and there are a relatively large number of repeat transactions to provide enough data points for the required types of residences and where sample selection bias is not considered a problem. It is not recommended when a distinction needs to be made between the price of the structure and the price of the land.”
House prices at different stages of the buying/selling process

Price ratio between seller’s **initial asking price** ($P_{\text{START}}$) and the **final offer price** accepted by seller ($P_{\text{END}}$).
Time lag between $P_{\text{START}}$ and $P_{\text{END}}$
Hedonic price index for condominiums in the Greater Tokyo Area

Lost Decade

Global crisis
Weekly hedonic index for condominiums in the Greater Tokyo Area

March 11, 2011 Earthquake Tsunami Fukushima
Commuters unable to get home
March 11, 2011
Commercial property rents in the central business district of Tokyo

- Blue line: properties one year old or less [left scale]
- Red line: properties over one year old [right scale]
This presentation is based on the following papers:

