Real estate indices as a barometer of stable real estate returns and predictor of real estate risks during real estate boom or burst cycles.

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Framework: different methods
Equations
Pricing indices at a glance
Graphs of different indices
GARP slide on situation of banks in crisis and relationship to HPI
Real estate risk assessment
Changing scenarios due to crisis
Conclusion
References
Author Information
Framework: different methods

Appraisal methods and/or Transaction based methods.

A sub classification of the Transaction based methods is

1) repeated sales method

\[ R_{itr} = \frac{B_0}{B_t} e^{-c(t-t')} U_{itr} \]

\[ r_{itr} = \sum_{j=1}^{T+1} b_j x_j + u_{itr} \]

2) hedonic methods

\[ \ln p_{it} = \alpha + \beta \ln m_i + \sum_{j=1}^{T} \delta_j D_j + \sum_{j=1}^{T} \gamma_j x_{ij} + \epsilon_i \]

- \( p_{it} \) = Achieved prices in real estate;
- \( x_{ij} \) = Locational and qualitative characteristics known for all real estate sold;

Methodology: Equations (1)

- A typical repeated sales model in simplistic terms can be see below – (Martin et al, 1963 and Bailey et al 1963)
- Repeated sales model has been in use in the built up of the Hong Kong Residential pricing index, the details of the equation are as follows – (Chau, 2006)

\[ R_{itr} = \frac{B_0}{B_t} e^{-c(t-t')} U_{itr} \]

\[ r_{itr} = \sum_{j=1}^{T+1} b_j x_j + u_{itr} \]
Methodology: Equation (2)

- A typical hedonic method is represented as follows –
  \[ \ln p_{it} = \alpha + \beta \ln m_i + \sum_{j=1}^{n} \delta_j D_{ij} + \sum_{j=1}^{n} \gamma_j X_{ij} + \epsilon_i \]
  
  - \( p_{it} \) = Achieved prices in real estate;
  - \( X_{ij} \) = Locational and qualitative characteristics known for all real estate sold;

Achieved prices in real estate;
Locational and qualitative characteristics known for all real estate sold;
Graphs of different indices (2)

Economic growth and income returns

Framework for stable real estate returns
Changing scenarios due to crisis


Situation of banks in crisis and relationship to HPI

- Finding a link would mean that banks' local deposit rates are driven by overall bank demand for deposits.
- In the setting of the experiment, the demand for deposits is driven by loan growth.
Conclusions

- For pricing purposes in real estate market, one needs to specify exogenously the market price of risk.
- Combining hedonic and repeat-sales methods used in the construction of housing price indexes makes them applicable equally well to other durables.
- Virtual real estate markets on the internet may well facilitate the development of high quality property price indexes there by leading to a better prediction measure of volatility and bubbles.

References

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