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Monthly House Price Indices and Their
Applications in New Zealand

A thesis presented in fulfilment of the requirements for
the degree of Doctor of Philosophy

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ABSTRACT

Developing timely and reliable house price indices is of interest worldwide, because these measures influence consumer behaviour, inflation targeting, and spot and futures markets. Several techniques for constructing a constant quality price index are available in the literature, but these methods are difficult to apply in localities where market transaction data is limited. Since house price movements are a local phenomena, improving the timeliness of a quality controlled price index at local housing market levels in small countries like New Zealand is a challenge.

This thesis comprises three essays that focused on improving the timeliness of reported house price indices at the local market levels. The timeliness issue examined in this thesis has not previously been rigorously investigated and this makes the results of this thesis both important and unique for the benefit of both academic research and practical application. Essay One reviews the sale price appraisal ratio (SPAR) method, which has been applied since the 1960s for producing local house price indices at a semi-annual and quarterly basis in New Zealand. Utilizing a variety of statistical tests and comparing this index with the repeat sales and median price index result in the study highlighting the potential of, as well as the problems associated with, a price index produced by the SPAR method at a monthly level. In the following two essays, monthly price indices are tested using empirical real estate research methods in order to examine their usefulness in exploring the research questions as well as revealing the statistical differences between them. Essay Two studies the relationship between sale price and trading volume, and the ripple effect of local house price comovements. The results show that the trading volume generally
leads the sale price in the long-run and the ripple effect is most likely constrained within regions. In Essay Two, the monthly SPAR index produces similar statistical results to those estimated by the repeat sales index for large cities. Essay Three is a study on the market efficiency of housing markets. It is found the local housing market is neither weak-form nor semi-strong form efficient. Local house price movements are strongly correlated and are mean reverting towards their long-run equilibrium. It is further concluded that monthly price indices for small cities are problematic due to the problem of small sample size.

Overall, the findings in this thesis show monthly house price indices can be generated by using the SPAR method at local market levels. However, this potential is limited to large cities. Further research can focus on improving the quality of monthly price indices for large cities.
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RELATED RESEARCH

Accepted Journal Articles


Journal Articles under Editorial Review

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