

Mathematical Statistics Stockholm University Bachelor Thesis **2020:14** http://www.math.su.se

Construction of Price Indices for Stockholm Condominiums

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Abstract

The main aim of this thesis is to explore the world of house price indices and the statistical mechanics behind them. I introduce two commonly used models for price indices around the world; the hedonic time dummy model and the repeat sales model. In Section 3, six different price indices based on transactional data on Stockholm's condominiums are created. These indices spanned over the period from January 2014 to December 2018. For the construction of these indices, statistical regression methods were required to estimate the coefficients of the price models. The regression methods used in this thesis are the Ordinary Least Squares, Weighted Least Squares, and Robust regression. Lastly, I used different validation metrics to revise the indices validity and to compare them with each other. All indices constructed in this thesis illustrated similar price movement patterns, an upward trend from January 2014 towards the end of 2017 where the peak turned and the price indices dropped by approximately 15%.

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