# Identifying Booms and Busts in House Prices Under Heterogeneous Expectations

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## Abstract

We introduce heterogeneous expectations in a standard housing market model linking housing rental levels to fundamental buying prices. Using quarterly data we estimate the model parameters for eight different countries, US, UK, NL, JP, CH, ES, SE and BE. We find that the data support heterogeneity in expectations, with temporary endogenous switching between fundamental mean-reverting and trend-following chartists beliefs based on their relative performance. For all countries we identify temporary house price bubbles, amplified by trend extrapolation, and crashes reinforced by fundamentalists. The qualitative predictions of such non-linear models are very different from standard linear benchmarks, with important policy implications. The fundamental price becomes unstable, e.g. when the interest rate is set too low or mortgage tax deductions too high, giving rise to multiple non-fundamental equilibria and/or global instability.

**Keywords:** housing prices, heterogenous agents model, bounded rationality, bubbles

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