

Internet searches as a leading indicator of house purchases in a subnational framework: the case of Spain

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Abstract

Most people use web search tools to collect information on goods or services they intend to buy. Given the prominence of Google among the search engines and the availability of Google trends (GT) as a tool packaging some characteristics of those searches (geography, topic, categories, among others) it is only natural to use this instrument in order assess trends in the market.

In this paper we build indicators reflecting the real estate market stance. To do so we rely GT's TOPIC's option that approximates the concept (housing, purchase, sale ...) instead of the exact wordings used by searchers. This approach is particularly useful in a country with several official languages and an important foreign market.

The baseline quarterly model describes house sales (measured by its year-on-year growth rate) as an autoregressive AR (1/4) model and unemployment rate as a covariate. The alternative augments the baseline with contemporary a Google indicator. The models are estimated for 2004Q1-2014Q4 and recursive one period ahead forecasts are made for 2015Q1-2018Q4. The inclusion of Google indicator reduces the EAM of prediction errors (outside the sample) from 0.077 to 0.034. The forecasts also have greater accuracy and lower bias. The same procedure has been replicated for regions with very similar results for the main regional markets (Madrid and Catalonia) and more unequal in other regions.

Keywords: *Housing markets; Spain; Google trends.*
