Impact of Infrastructure and Public Assets on Private Real Property Prices

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Abstract

Residential property prices are clearly affected by many different factors, such as proximity to transport, pollution and environmental characteristics (e.g. parks and water views). It is important to note that there is likely to be spatial dependence between neighbouring properties, both due to the fact that they will share accessibility and environmental characteristics as well as due to the fact that properties in the same area are often developed around the same time and hence share similar physical characteristics.

This study performs an analysis of the Sydney residential housing market in 2001 to infer which factors were significant in explaining house prices. The primary factors under investigation were proximity to public transport, roads and parks as well as air and noise pollution. Four different models are considered, which account for both linear and non-linear effects as well as analysing what effect including a spatial function has on significance of explanatory variables. Recent research involving spatial dependence in actuarial science will be discussed.