## Income and housing poverty: Multidimensionality, heterogeneity and nonlinearity

## 2020.1.21

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## **Abstract**

This paper examines relationships between income and housing poverty, using large-sized individual datasets of Housing and Land Survey in Japan. Our analysis consists of the following two components. First, we construct multidimensional housing poverty indices based on Alkire and Foster (2011), using seven variables of housing quality and neighborhood environment. Second, we investigate heterogeneous and nonlinear relationships between household income levels and the multi-dimensional housing poverty indices, using graphical analyses and regressions. Our results show that there are robust negative nonlinear associations between income and housing poverty, but these negative associations are heterogenous, depending on deprivation/poverty variables and the subgroups of household types.