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Specification and structural break tests for additive models with applications to realized variance data

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Abstract

We study two types of testing problems in a nonparametric additive model setting: We develop methods to test (i) whether an additive component function has a given parametric form and (ii) whether an additive component has a structural break. We apply the theory to a nonparametric extension of the linear heterogeneous autoregressive model which is widely employed to describe realized variance data. We find that the linearity assumption is often rejected, but actual deviations from linearity are mild.

AMS 1991 subject classifications. 62G08, 62G10

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