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Threshold non-linear dynamics between Hang Seng stock index and futures returns

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Abstract

We test the joint dynamics between the Hong Kong Hang Seng Index futures and the underlying cash index using a Bivariate Threshold AutoRegressive model, which is better able to capture the complex return dynamics evident in financial time series. The results are consistent with a three-regime version of the model, where the lead-lag relation between the index and futures returns is a non-linear threshold-type and the regime switching process depends on the state of the threshold variable. This

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Notes

Market capitalisation of the Hong Kong Exchange was US\$1238 billion in January 2009, compared with Tokyo (US\$2922 billion) and the New York Stock Exchange (US\$9363 billion) World Federation of Exchanges [\(2009\)](#).

In fact, the improvement in correlation is consistent with a growth rate model of the form $y=ax/(b+x)$, where $a=0.9976818$ and $b=0.287548$. The standard error of this model is 0.0008218 and the correlation is almost 1 (0.999205).

ADF statistics for () are, respectively (−29.76, −31.19, and −13.31, with the 1% critical).

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