论文

基于小波分析的石油价格长期趋势预测方法及其实证研究

梁强, 范英, 魏一鸣

中国科学院科技政策与管理科学研究所, 北京, 100080

A Long-Term Trend Forecasting Approach for Oil Price Based on Wavelet Analysis

LIANG Qiang, FAN Ying, WEI Yi-ming

Institute of Policy and Management, Chinese Academy of Sciences, Beijing 100080, China

- 摘要
- 参考文献
- 相关文章

Download: PDF (KB) 　HTML (KB) 　Export: BibTeX or EndNote (RIS) 　　Supporting Info

摘要 本文将小波方法引入到油价长期趋势的预测中,利用小波多尺度分析的功能,提出了一种可以较为准确地根据油价时序列预测其未来长期走势的方法。这种方法的优点在于可以准确地提取油价的长期趋势,从总体上把握油价的非线性波动特征,从而能够很好地利用油价时间序列的历史数据,开展对未来一段时期内的多步预测。实证研究中,对Brent油价开展了时间跨度为1年的趋势预测,并将预测结果与ARIMA、GARCH、Holtwinters等方法得到的结果进行了比较,表明了基于小波分析的长期趋势预测法的预测能力是其他方法所不能比拟的,反映了本文所建立的石油价格长期趋势预测方法的有效性。

关键词： 小波分析 　石油价格 　长期趋势 　时间序列 　多步预测

Abstract： This paper applies the wavelet method to the oil price long-term trend forecasing.By using the function of wavelet multi-scale analysi,we propose an approach which can accurately predict the future long-term trend of oil price according to the oil price time series.The advantage of the wavelet long-term trend forecast approach is that it can abstract the long-term trend of the oil price accurately and realize the non-linear characteristic of the oil price movements.Thus depending on the historical time series of the oil price,we can figure out the long-term multi-step forecast in a long future.The empirical research is constructed for an one-year long-term trend forecasing of the Brent oil price.By the comparison between the forecast result of this approach with the those of some other time series prediction approaches such as ARIMA,GARCH,Holt-Winters,we demonstrate that the predicted power of the wavelet long-term trend forecast approach in the oil price long-term trend prediction is much better than many other time series forecasting approaches.

Service

把本文推荐给朋友
加入我的书架
加入引用管理器
Email Alert
RSS

作者相关文章

梁强

范英

魏一鸣

没有本文参考文献

没有找到本文相关文献