

论文

CRUDE OIL PRICE FORECASTING WITH TEI@I METHODOLOGY

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摘要 The difficulty in crude oil price forecasting, due to inherent complexity, has

attracted much attention of academic researchers and business practitioners. Various

methods have been tried to solve the problem of forecasting crude oil prices.

However, all of the existing models of prediction can not meet practical needs. Very

recently, Wang and Yu proposed a new methodology for handling complex systems---TEI@I

methodology by means of a systematic integration of text mining, econometrics and

intelligent techniques. Within the framework of TEI@I methodology, econometrical

models are used to model the linear components of crude oil price time series (i.e.,

main trends) while nonlinear components of crude oil price time series (i.e., error

terms) are modelled by using artificial neural network (ANN) models. In addition, the

impact of irregular and infrequent future events on crude oil price is explored using

web-based text mining (WTM) and rule-based expert systems (RES) techniques. Thus, a

fully novel nonlinear integrated forecasting approach with error correction and

judgmental adjustment is formulated to improve prediction performance within the

framework of the TEI@I methodology. The proposed methodology and the novel

forecasting approach are illustrated via an example.

关键词 [TEI@I methodology, oil price forecasting](#)

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Abstract The difficulty in crude oil price forecasting, due to inherent complexity, has attracted much attention of academic researchers and business practitioners. Various methods have been tried to solve the problem of forecasting crude oil prices. However, all of the existing models of prediction can not meet practical needs. Very recently, Wang and Yu proposed a new methodology for handling complex systems---TEI@I methodology by means of a systematic integration of text mining, econometrics and intelligent techniques. Within the framework of TEI@I methodology, econometrical models are used to model the linear components of crude oil price time series (i.e., main trends) while nonlinear components of crude oil price

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Key words [TEI@I methodology](#) [oil price forecasting](#) [text mining](#) [econometrics](#) [intelligence integration](#)

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