

Report on Diploma Thesis

Institute of Economic Studies, Faculty of Social Sciences, Charles University in Prague

Student:	Bc. Martin Baletka
Advisor:	PhDr. Ladislav Krištofuk
Title of the thesis:	Multifractal analysis of petrol and diesel prices in the Czech Republic

OVERALL ASSESSMENT (provided in English, Czech, or Slovak):

Diploma thesis “Multifractal analysis of petrol and diesel prices in the Czech Republic” is majorly an empirical work focusing on multifractal properties of the named fuels compared to crude oil with a use of the generalized Hurst exponent approach (GHE) and the multifractal detrended fluctuation analysis (MF-DFA). The novelty of the thesis lies in two contributions to the literature. Firstly, Martin analyzes a dataset of petrol and diesel which has not been done before, at least up to my best knowledge. And secondly, multifractality of the analyzed series is not only estimated but actual statistical properties are tested using shuffled and surrogate series with a set significance level, which is not done in the literature most of the time. Martin finds that crude oil returns are neither persistent nor multifractal and for the fuels, he uncovers persistence connected with multifractality which is caused both by distributional properties of the series as well as the correlations. The thesis thus brings novel results which, I believe, are publishable.

The text of the thesis is clearly structured and it reads well. The methodological part suffers a little from the fact that the theory behind long-term memory, (multi)fractals, self-affinity and self-similarity is of a level well beyond the level of master’s studies. It is thus needed to be stressed that the topic of interest is very demanding. I believe that Martin has done a very good job handling it.

Martin has consulted the thesis repeatedly and he has incorporated all the important suggestions of mine. Therefore, I have no further questions. **I suggest the thesis for the defense with grade A.**

SUMMARY OF POINTS AWARDED (for details, see below):

CATEGORY	POINTS
Literature (max. 20 points)	19
Methods (max. 30 points)	28
Contribution (max. 30 points)	29
Manuscript Form (max. 20 points)	18
TOTAL POINTS (max. 100 points)	94
GRADE (1 – 2 – 3 – 4)	1

NAME OF THE REFEREE: PhDr. Ladislav Krištofuk

DATE OF EVALUATION: 4.9.2013

Referee Signature