Report on Rigorosis Thesis

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Title of the thesis:	Multifractal nature of financial markets and its relationship to market efficiency

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

The thesis focuses on presence of long-range dependence in financial time series. The theoretical part (Chapters 2 to 5 – 37 pages) provides quite extensive review of relevant methods whereas the applied part (Chapters 6 and 7 – 17 pages) focuses on Monte Carlo simulations and application on several exchange rates, DJIA and PX.

As already mentioned, the theoretical part shows many methods for estimation of Hurst exponent H or integration paramed d, which are interconnected, together with description of different AR(F)IMA methods. The whole part is well interconnected and structured logically. Even though some issues remain unchanged from the master's thesis, majority of issues raised by me were corrected or added.

The applied part is divided into two chapters – one shows Monte Carlo simulations for chosen methods and the other shows estimates for several exchange rates, DJIA and PX together with bootstrapped confidence intervals. There are several interesting results (mainly superiority of R/S to other methods with strong AR component), which are still only weakly interpreted and not compared to the results of literature on the topic.

To conclude, the rigorosis thesis is an improvement compared to the master's thesis. I hope the author will continue in his research and uncover more interesting results.

In the case of successful defense, I recommend **"vyborne" (excellent, 1)**.

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

CATEGORY		POINTS
Literature	*(max. 20 points)*	13
Methods	*(max. 30 points)*	26
Contribution	*(max. 30 points)*	23
Manuscript Form	*(max. 20 points)*	18
TOTAL POINTS	*(max. 100 points)*	**80**
GRADE	**(1 – 2 – 3 – 4)**	**1**

NAME OF THE REFEREE: Ladislav Krištoufek

DATE OF EVALUATION: 11. 3. 2010

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Referee Signature