Errata

In this rigorous thesis I have incorporated all suggestions mentioned in the Report on Master Thesis by my master thesis oponent RNDr. Michal Červinka, Ph.D. I would like to thank for his valuable comments and a thorough reading of my thesis. His comments and remarks have been incorporated into the thesis and have contributed to the better quality of the thesis.

Moreover, I have extended the thesis by KPSS test, which was suggested by PhDr. Ladislav Krištoufek, Ph.D. during the defence. I would like to thank him for proposing application of KPSS test as an alternative to the ADF test. Application of this test has strengthened the motivation for using the long-memory framework, as the inference from ADF and KPSS tests was not unambiguous.

In cooperation with my master thesis supervisor PhDr. Jozef Baruník, Ph.D. we have prepared a paper based on the results from this thesis. The paper has been submitted to the international impact factor journal before the deadline for the rigorous thesis, and it has been sent by the Editors to the referees.

Comments and remarks mentioned in the Report on Master Thesis were addressed in the following way:

1. Wrong notation regarding PX Index
   I have corrected and unified the notation to only PX Index and explained the history of the merge of PX 50 and PX-D indices.

2. Range of newly defined variables
   I have added the ranges of newly defined variables.

3. Summary of results in the introduction
   Summary of basic results in introduction is quite conventional and is intended to present the reader with what we have achieved in the thesis so that he or she can get an idea where all the text is heading. It is done so in all econometric papers, for example a paper by Nielsen, M. Ø., and K. Shimotsu (2007) published in Journal of Econometrics.

4. Repeated notation
   I have removed the repeated notation.

5. Definition of nontrivial terms
   Terms such as dispersion, volatility proxy and frequency ordinates are very common terms in the financial literature, however I have explained some of these terms in the rigorous thesis. The definition of the fractional process is provided already in the introduction.

6. Abuse of terminology
   I have corrected the notation so that it is not confusing.

7. Omission of a + sign

   The plus sign was missing, thank you for finding this typo.

8. Confusing Δ in table heading and a missing letter

   Confusing Δ has been replaced by term „first-differences“ and I have corrected the missing letter.

9. Definition of unused models

   The unused models or methodology is presented because they are necessary for the explanation of the latter methodology. They are not used, because they are not suitable, but they are presented in order to connect the standard approach with the newly defined one.

10. Gamma function

    The definition of Gamma function was corrected so that it is explicitly stated that the definition can be extended for all but non-positive integers (with a proper use of complex analysis), while for the non-positive integers we are left with singularities.

11. Numerical labels

    The label (1) was moved to the first appearance of the equation.

12. Footnotes

    I have used small roman letters for numbering of footnotes so that the numbering is unified throughout the text and not confusing.

13. Formal corrections

    Thank you for finding the typos or inconsistencies. I have corrected all of them.