Log-periodic approach to world markets development

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Detecting imprints of deterministic patterns in the financial dynamics and identifying their origin is a great intellectual as well as a practical challenge [1]. In this context the suggestion that financial dynamics may be governed by phenomena analogous to criticality in the statistical physics sense and, especially, the related subtle concept of log-periodicity proves promising but at the same time it still appears somewhat controversial. Based on our related "finance-prediction-oriented" methodology [2] which involves such elements as log-periodic self-similarity [3], the universal preferred scaling factor, and allows a phenomenon of the "super-bubble" [4] we analyze the leading world stock markets (represented by the S&P500, Nasdaq, DAX, WIG and some Asian markets) and the commodity markets development over the past several years. This analysis involves both the bull as well as the bear market phases. We emphasize the subtleties of the related methodology and summarize our predictions as published [1, 5], documented on the public fora [6] or placed at [7]. In the present contribution we primarily elaborate on the current world market status. We also present some further forecasting scenarios for the world stock market, for the commodity market like the oil and the precious metals markets, and for the Forex. As an entirely novel element we elaborate on the ongoing correlation between the dynamics of the American stock market indices and of the NYSE margin debt and point to their mutually critical character.

References

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